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ELEMENTS OF LANDSCAPE GARDENING.

Number Four.

THE USE AND BEAUTY OF EVERGREENS.

How and When to Transplant them.

There is no country place, however large or small, that does not derive an additional beauty from a liberal use of Evergreens. As a means of adornment they offer many advantages, and as a means of shelter, in exposed situations, they are absolutely invaluable. When the cold weather sets in and the leaves of deciduous trees have fallen, groups of evergreens interspersed about the lawn, and growing in compact masses in the rear and on the north-west sides of the dwelling, not only afford shelter and protection from storms and the fiercer blasts that are of constant occurrence in this latitude from January until the close of March, but they also give, by their gracious verdure, relief to the eye, break up the monotony of brown fields and leafless branches, and clothe with almost a summer aspect, a winter scene. The objections made against the use of evergreens, that they are slow of growth and are difficult to transplant, are in reality of no force whatever. Evergreens, if the proper care be taken, may, with few exceptions, be as readily removed and can be as freely grown as deciduous trees. Indeed there are some of the latter which are far more difficult to transplant; as for instance, the tulip tree, the hickory and several kinds of oak. Under very skilful management and in the hands of a man who is complete master of his profession, every species of tree can be safely removed and re-established in vigorous growth in the new location in which it is desirable it shall take root and flourish. But these are exceptional cases, and we are writing for the many. What most people want are such suggestions as will enable them to decorate their homesteads with trees and evergreens and flowering shrubs that do not require excessive care in transplanting, and that will assuredly grow if a moderate amount of attention be given to them.

Now, the evergreens that can be relied upon under these given conditions, are the Norway spruce, the balsam fir, red cedar, American arbor vitæ, silver fir, the white, Scotch, Austrian, and the common yellow and gray pines. In offering suggestions as to the best selection to be made from the list, we should advise, whenever the others can be had, to throw out of the catalogue entirely the red cedar and the arbor vitæ, for the simple reason that their foliage acquires a brown tint in the depth of winter, whilst the others retain their natural and varied tints of lively green.

The best time for transplanting evergreens is from about the middle of March to the middle of May.—Perhaps, if a choice can be had, from the 15th to the close of April is to be preferred. In one particular the improver must be especially careful. In the process of removal he should sedulously protect the roots of the evergreens from the influence of the sun and of drying winds. Nothing can possibly be more injurious than such exposure even though but temporary. To avoid this it is but to cover the roots with wet matting, damp straw, or any loose litter the moment they are taken from the ground; retaining their covering until they are withdrawn for planting which should be done immediately. Neither should the roots be mutilated, and where they are so, they should be carefully trimmed off. It is a good plan to dip the roots in a puddle of mud as soon as they are taken from the ground, and then to pack them for removal in damp moss, straw, or litter, as advised above.

In planting, the holes should be much larger than the length of the roots when extended laterally, and, in the case of evergreens—need not be so deep as they are required to be for deciduous trees. The reason for this is that the roots of evergreens establish themselves very near to the surface of the soil, and should not be planted deeper than they usually ramify in their natural state. When the ground is properly prepared, choose a damp cloudy day for transplanting, and take especial care to have a mellow bed for the roots. The latter should not be pressed down.

wards, but should be carefully spread out laterally and the interstices should be filled with fine earth. This may be facilitated by an occasional dash of water. Press the earth moderately about the roots, and after filling all in, leave the surface around each tree slightly dish-shaped, stake strongly on the north-west side to prevent the winds from disturbing the roots, and mulch thoroughly with long straw or loose litter of any kind. The following Spring fork in some manure lightly about each tree; mulch again and keep the grass down for at least a distance of six feet.

DRAINING SWAMP LANDS.

The draining of swamps on Long Island has been discussed before the Queens County Agricultural Society by Mr. Thomas Messenger. From his experiments, he judges there is no difficulty in reclaiming swamp lands, and that few investments will realize better, the land thus reclaimed being highly productive. Mr. Messenger cites an instance where he has reclaimed a swamp of sumach, alders, &c., so bad that the remains of cattle which had become mired, and had been abandoned, were actually discovered in it while excavating drains. The land is now of the highest value, yielding crops of the best quality, and in great profusion, such as corn, wheat, celery, cabbages, turnips, &c. As grass land, it is very superior. The following estimates are given to show the past and present value of land: The valuation of land in its primitive state is

placed at \$25 per acre.....	\$500 00
Total expense (without fence) during 5 seasons.....	1533 16
	\$2033 16
To the credit of which, place	
2,000 bushels ashes, at 10 cents.....	\$200 00
926 cart-loads muck, 25c.....	\$231 50
Less expenses of hauling, 115 50	
	136 00
25 loads wood, at \$4.....	100 00
20 acres land, estimated value	
\$200.....	4000 00
	4426 00

Showing a net gain of.....\$2392 84

The subject of draining swamp lands has excited much attention recently. The vast tracts of salt marsh in New Jersey will probably be some day reclaimed, and made extremely valuable farming lands. A bill has also been introduced into the Missouri Legislature directing inquiry into the expediency of draining the immense swamp lands of that State, which embrace one million and a quarter of the richest acres of the State. The swamps of Louisiana and Texas embrace three millions more.

COPPER COINS.—In England the copper coinage is rapidly being superseded by the new bronze coin. About \$750,000 of copper coins were in circulation, but about \$400,000 has been recently returned to the mint. It is intended shortly to declare copper money an illegal tender.

HINTS ON COUNTRY HOUSES.

Number Four.

SUGGESTIONS CONCERNING COLOR.

We hope the time has gone by when custom—more honored in this instance at least, in the breach than in the observance—shall make it almost imperative, that all country houses shall be a glaring white and all country shutters green. It is something marvellous this uniformity of bad taste; this neighbourly sameness in the one thing that detracts more from the beauty of a landscape than all others put together. Let us lay down this one remark, as an axiom—"nature never works in blotchy and incongruous colours." All her tints are subdued; all are in harmony with their surroundings, and all work together with all to produce that gracious variety yet complex uniformity which never wearies the eye and has taught the most tasteful of modern landscape gardeners to imitate nature in her loveliest moods, and to seek no higher excellence in an art which, in the hands of a skilful man, can transform a bleak field into a sort of domestic paradise of ever new delights. When we are told that the best instruction to be had in the improvement of lawns, pleasure grounds and parks, is to be found in a careful study of the works of the best landscape painters, we are simply told to follow the teachings of nature, inasmuch as it was solely from this source that all the most famous painters drew their inspiration and their success. This brings us to the consideration of the most appropriate colour for country houses. Who ever saw in any painting, of the least merit, a white house occupying a prominent position in the landscape? We venture to say that such a solecism in good taste was never committed by any artist of approved merit and excellence. The reason is obvious—he could not have admitted such an obtrusive feature into his picture without destroying utterly that harmony of colour through which all parts of the composition are blended and interspersed into one grand and pleasing whole.—Wherever any white object of any sensible magnitude is introduced, its bold offensiveness must be softened and toned down either by the interposition of heavy foliage, or by the shadows thrown from rocks and trees in the vicinity. We know that habit reconciles us to many things that even our native instinct admonishes us are opposed to the canons of good taste; but why we should persist in reproducing these enormities, when we know better, is a question that scarcely admits of an intelligible answer.

We have said that every thing in nature is harmonious. It necessarily follows then that whatever we do in the way of art should be in conformity with that harmony. All will admit that cultivated

fields and comfortable homesteads embosomed in trees, add vitality and a fresh sense of beauty to a rustic scene. But take from these homesteads the embowering trees and plant them naked and ghastly white, in the midst of an upland field, and they at once become a blotch and a disfigurement. Who of us would not say that a snow mountain rising from the midst of summer pasture lands was an anomaly, because it is in utter disagreement with every thing around it. It is just so with a white house, and the only conditions under which white can be admissible, as the one prevailing colour of a country house, is where the dwelling is closely surrounded by shrubbery and deciduous and evergreen trees, and is only seen from a distance through breaks in the foliage.

What then is the remedy? It is as simple as white wash itself, and when economy is consulted is quite as economical. Where paint cannot be afforded, use a color wash, instead of pure lime. Add ochre to the lime, or ochre and venetian red, or, in fact, any cheap colour that will produce a neutral tint. Brown houses, such as are seen in populous cities, are not in point of colour suitable for the country; they do not agree with the surrounding scenery. Wherever brown is used, it should be of a light tint, and the facings, mouldings, cornices, &c., of the house should be much lighter still. It is far better, however, that the colour of country houses should be either a cool grey, or cream, or drab, or fawn. These all harmonize with the landscape and the house is thus made to appear a part of the soil, to spring from it, as it were, and not the unsightly excrescence which but too often strikes one as the leading idea when looking at a great staring white house in the midst of green pastures.

Choosing then any of the neutral tints, we should advise that whilst the main body of the house is, of course, of uniform colour, its ornamental portions should be of different and rather darker shades of the same colour. For instance, if the prevailing tint is fawn colour—and there is none better for general use—we should make the cornices, pillars and mouldings two or three shades darker than the main building; the styles of the window shutters and doors the same, but the slats and pannellings of these, as also the railing of the verandah—if it has any—two shades darker. These simple variations of the same colour, whether grey, fawn, drab, cream, or any other neutral tint will add greatly to the external beauty of the dwelling, and will be in entire accordance with its surroundings.

CABBAGE is greatly extolled in England for feeding milch cows, store cattle, sheep and swine. An acre will produce 25 tons.

CUT NAILS can be easily driven if first rubbed with common hard soap.

Our Agricultural Calendar.

Farm Work for April.

It is impossible to impress too earnestly upon our farmers and planters the absolute necessity of pressing forward the spring work during this month with all imaginable energy. Not a day; not an hour is now to be lost. Crops planted in season, under the best conditions of soil and preparation, have every possible advantage over crops which are delayed until the proper season for planting has passed. In agricultural operations lost time can never be recalled. The spring rains, the cooler weather, the moisture and friability of the soil at seeding time—all these are essential to the vigorous growth of the plant, and in general seasons, all these advantages are lost if the starting of the crop is delayed until the continuous warm and dry weather sets in. These remarks are especially applicable to spring wheat, to oats, barley and potatoes, for all of these crops require to be forwarded as early in the season as possible. We know that with respect to potatoes the general custom has been to plant a month later; but whilst there are some reasons that favour this custom, they are counterbalanced by others that are still more cogent, in the Middle States at least, in favour of earlier planting. Potatoes flourish best in a light, cool, moist—but not wet—soil, and this can only be obtained in two ways—first, by early seeding; second, by heavy mulching. The latter, for a large crop, is impracticable, and therefore we recommend the former so that the formation of the bulb may commence before the hot weather sets in. The work to be done is as follows:

O A T S.

We gave in the Farm Work for last month the necessary directions for the preparation of the soil, and the mixtures and composts most useful for the production of oats. We may however, add here, briefly, the points to be observed.

The best Soil for Oats.—A stiffish clay loam—oats never do well on a sandy soil; but they flourish vigorously on a grass sward or clover ley turned under. The practice in Pennsylvania and elsewhere of following corn with oats is a bad one, as in a judicious system of rotation no two crops of cereals should succeed each other.

Manures and Fertilizers adapted to Oats.—See Farmer and Mechanic for March.

Quantity of Seed per Acre.—From two to three bushels.

Seeding down to Clover.—Harrow the oats well in and cross harrow. Follow immediately by sowing clover seed, bush it in or harrow again lightly.—Finish off with the roller.

Early Potatoes.

Get these in as soon as possible. See Farm work for March.

BARLEY.

This crop should also be put in as soon as all danger of frost is over. Unlike oats, barley delights in a rich light soil containing a large admixture of sand, but having sufficient humus to absorb moisture, and to retain it in a moderate degree. In a soil in good condition and properly prepared, barley will yield from twenty-five to forty bushels per acre. If the field needs enriching either of the following mixtures will be found beneficial :

1.—10 2-horse loads of barn or stable manure—10 loads of woods earth or marsh mud—10 bushels of leached wood ashes—1 bushel of plaster and one of salt—compost the above for two weeks—mix, haul out, spread broadcast, and plough under.

2.—200 lbs. phosphatic guano—2 two-horse loads of woods mould or marsh mud—5 bushels leached ashes—1 bushel of plaster and one of salt. Mix, broadcast, and plough under, as above.

3.—20 two-horse loads of stable manure, mixed with 1 bushel of plaster, to fix the ammonia.

4.—4 bushels of crushed bones—10 bushels of wood ashes—2 two-horse loads of woods mould—2 bushels of refuse salt—1 bushel of plaster. Let the whole remain in mass for two weeks, then mix, spread, and plough under.

Quantity of Seed per Acre.—Sow two bushels of seed per acre broadcast; harrow, cross harrow and roll. If clover seed is sown on barley, follow the same process as advised for oats.

SPRING WHEAT.

If from any cause it should be found desirable to put in a crop of spring wheat, the earlier it is seeded the better chance it will have of yielding a fair product. As a general rule, however, in the Middle States the culture of spring wheat is not to be recommended. The quantity of seed to the acre, wherever used, should not be less than two bushels, and two and a half bushels would not be too much on a good soil.

CULTURE OF CORN.

In the cultivation of corn, thoroughness of work, including deep ploughing, fine tilth, frequent ploughing, harrowing and loosening of the soil, is absolutely essential to the production of heavy crops.—No cereal requires more constant attention and labour than corn, and none will repay that extra care with more certainty. The best soil for corn is a rich deep light sandy loam—river bottoms, frequently alluvial in their origin, are superior to any other. Land cannot be too rich for corn, and if it is not naturally fertile, those who desire to raise large crops must manure heavily.

PREPARATION OF SOIL.

The ground should be deeply ploughed and thor-

oughly pulverized; all lumps and clods being completely broken down. A light loose soil, as light as an ash heap, is one of the conditions of a profitable cultivation of corn. An analysis of the ashes of the grain of corn gives the following results :

Silicic Acid,	-	-	-	-	75.980
Phosphoric Acid,	-	-	-	-	14.550
Lime,	-	-	-	-	5.672
Magnesia,	-	-	-	-	6.617
Potash,	-	-	-	-	23.396
Soda,	-	-	-	-	22.787
Chlorine,	-	-	-	-	7.096
Sulphuric Acid,	-	-	-	-	10.970
Phosphates of Iron, Lime and Magnesia,	-	-	-	-	17.042

To furnish these constituents when they are wanting in the soil is the first duty of the farmer, and they can be found in either of the following mixtures :

No. 1.—10 bushels of leached wood ashes—200 lbs. Phosphatic Guano—4 bushels refuse salt—1 bushel of plaster.

No. 2.—20 lbs. crude potash—200 lbs. phosphatic guano—4 bushels refuse salt—1 bushel of plaster.

No. 3.—20 loads of stable manure—5 bushels of crushed bones—1 bushel of plaster—1 bushel of salt.

No. 4.—10 two horse loads of marsh mud or wood earth—150 lbs. phosphate of lime—7 loads of barnyard manure—1 bushel of plaster.

No. 5.—5 bushels of bone dust—10 bushels of leached wood ashes—2 bushels of salt—100 lbs. of crude potash.

Mix any one of the above thoroughly before using; spread broadcast and plough under.

Distance of Rows.—After the land is well ploughed and harrowed, lay off the rows $3\frac{1}{2}$ by 4 feet or 4 feet by 4 as the judgment or experience of the farmer may direct—of course the richer the soil the greater number of hills are allowable; but very close planting is to be avoided as the corn demands light and air, and warmth quite as much as a rich soil and perfect cultivation.

After Culture.—Keep the soil constantly stirred—and free of weeds. Never allow it to bake on the surface, but pass and repress the shovel plough and the cultivator continuously through the field from the time that the corn is three inches high until it tassels.

Sowing Clover Seed.

It would be better if the invariable practice of our farmers were to seed down to clover or to clover and orchard grass, all the spring and winter small grain. Wheat, oats and barley should be regularly seeded down in this manner. The young clover draws nothing of consequence from the growing cereal; but starts freely after harvest, covers the ground and protects it from the rays of the sun, and if it be not retained for hay or pasture, is an admirable green crop for turning under.

Quantity of seed to the acre.—Of clover, 1 peck of Orchard Grass is added; sow 2 bushels of the latter.

Parsnips, Carrots, Beets.

The field culture of those roots, admirable as they are for stock feeding in the winter, has been very much neglected with us. Abroad they constitute one of the first cares of the farmer, and are regarded as essential to the proper economy of the farm. They are by no means difficult to raise, and deserve far more attention than we have hitherto been in the habit of giving to them.

Soil and Cultivation.—The soil best adapted to the growth of these roots is a light rich loam for carrots and parsnips, and a heavy loam for beets, although we have grown fine crops of sugar beets on a gravelly soil with a good clay subsoil.

Preparation of the ground.—The ground, if not naturally rich, must be made so either by the use of guano, ashes and bones or by a liberal broadcasting of *well rotted* manure. Long green manure will not answer for these crops. The ploughing should be very deep; not less than eight inches, although twelve inches would be better still. After the ploughing and harrowing has been done, furrow off the land, making the rows 20 inches apart. If it is possible to do so these furrows should be lightly manured, either with the best and most completely rotted manure in the barn-yard or with a dusting of phosphatic guano. Throw the furrows together as for potatoes—flatten down the tops of the ridges and sow the seed along the crown of the ridge.—When the young plants are three inches high thin them out to stand 4 inches apart for carrots, 5 inches apart for parsnips, and 8 inches apart for beets. The after culture is similar to that recommended for potatoes.

SAVE YOUR COAL ASHES.—It has been my custom to get all the coal ashes I could and put it around my trees. In the first place, it keeps the mice from eating the bark, or girdling them, in the winter, when snow is on the ground; in the next place, it saves me the trouble of digging around my trees; and in a third place, it keeps the ground free from weeds and grass, and loose. I have used coal ashes several years and by putting a wheelbarrow load to a tree, my trees thus treated do better than others do by digging around and manuring them. It keeps off vermin, borers and other injurious insects.

S. A. SHURTLIFF.

REMARKS.—A friend of ours who has had much experience in the cultivation of grapes, puts a high value on coal ashes, as an ingredient in his compost for the soil in which his grapes are planted. —*New England Farmer.*

SORE MOUTH in sheep may be cured, it is stated, by the application of "pot grease and sulphur, one half of each."

Garden Work for April.

We shall offer but few preliminary remarks this month in regard to gardening and its advantages. What we have already said in previous numbers of the "Farmer" covers pretty nearly the whole ground. We may remark, however, that a day lost now is a day lost forever, so far as gardening is concerned, and that it will mainly depend upon the prompt and efficient manner in which the various crops of vegetables are got into the ground during the present month, whether the wants of the family late in the season are amply supplied, or whether they are stinted in the very articles that in the summer season are more desirable because more healthful than meats. The work for the month may be noted as follows:

Planting out Cabbage Plants.—As soon as the plants which may have been forwarded in hot beds are sufficiently hardy to prick out, manure heavily the bed in which they are to be set out permanently; dig and rake it thoroughly, and when this is well done, mark off the bed in rows three feet apart, and dibble in the plants along the centre of the rows at the distance of two feet apart. Some, however, adopt the plan, which is not a bad one, of setting the plants twelve inches apart at first, and cutting out every other one as they advance in growth for early table use.

Sowing Early Cabbage in open Beds.—Manure heavily a border having a southern aspect, and after digging and raking it very fine, sow cabbage seed of different sorts to follow the plants forwarded in hot beds. In sowing, rake the seed in lightly; press the earth about it with the back of a shovel and dress the bed with a mixture of wood ashes, or of soot and plaster in the proportion of three parts of the former to five parts of the latter. As soon as the plants come up dust them with soot alone. Water them in dry weather and keep them entirely free of weeds.

Cauliflower and Brocoli.—Sow the seeds of these as directed above, and if there are plants of the same which have been raised in hot beds, and are sufficiently vigorous and hardy to endure the open air, set them out.

Siberian Kale.—Prepare a bed, say one rod square, and seed it to Siberian Kale—make the ground very rich before seeding.

Early Peas.—The earliest planting of peas should already have been made. Sow again at the beginning of the month and at intervals of ten days for succession.

Dwarf Beans.—Sow a few rows of these at the beginning of the month and continue to seed at intervals of ten days, as in the case of peas.

Lettuce.—Lettuce plants raised in hot beds, or

that are too crowded in cold frames may now be set out in the open air. If more are required sow in a warm border at intervals of ten days for succession.

Small Salading.—Sow the seeds of these in well prepared beds from the commencement of the month at intervals of ten days.

Radish.—Sow the seed of these throughout the month at intervals of ten days.

Spinach.—Prepare a bed and drill in a few rows of spinach.

Carrots and Parsnips.—Sow the seed of carrots and parsnips in well dug ground, manured with well rotted manure—not long straw. Lay off the drills eighteen inches apart, and when the plants come up thin them out to about five inches apart for carrots and six inches for parsnips.

Celery.—If celery plants have been raised in hot beds as previously advised they should now be in a condition to prick out. About the middle of the month sow celery seed in a properly prepared border.

Asparagus Beds.—See that the asparagus beds—if there are any—are well dressed, manured and forked over during the first week in the month. When this work is done finish off with a heavy top dressing of refuse salt. Where a bed has yet to be set out sow the seed in a border for that purpose. It is much better, however, to purchase a sufficient number of roots from a trustworthy nurseryman, and plant them out at once in a bed properly prepared to receive them.

Beets.—Drill in rows a goodly quantity of beet seed. In preparing the bed, in addition to manure, sprinkle the whole surface with refuse salt. It will largely increase the vigorous growth of the plants.

Salsify or Vegetable Oyster.—Drill in a few rows of the seed of this excellent vegetable.

Parsley, Thyme, Sage, &c.—The seeds of all herbs of this description may now be sown. It is, however, preferable in most cases, to purchase a few roots and plant them out where they are to stand permanently.

Horse Radish.—When this is wanting prepare a bed in a corner of the garden and set out a few roots. They will soon increase and spread.

Rhubarb or Pie Plant.—Plant out a dozen roots of the giant rhubarb at about 4 feet apart in a bed especially appropriated for the purpose and where the plants may permanently remain.

Potatoes.—If not yet planted we refer to the March number of the *Farmer* for the necessary suggestions in regard to the preparation of the soil and its after culture.

Nasturtium.—Drill in a few rows of nasturtium seed for pickles.

Red Peppers.—Prepare a bed in a border with a southern exposure and sow the seeds of red pepper of various sorts.

Tomatoes.—Tomato plants should be forwarded in hot beds. If more are wanted choose a warm border and after manuring and spading the soil very thoroughly, sow tomato seed.

Egg Plants.—Egg plants being very tender in the earlier stage of the growth should also be forwarded in a hot bed. If this has not been done, sow the seed in a warm border about the middle of the month.

Melons.—It is too early to plant melons before towards the close of the month; but it is well to make the necessary preparations. The ground should be deeply spaded and well manured. Rake thoroughly and prepare hills for the reception of the seed at distances of six feet apart. Within the hills, before making up deposit two large shovels full of hog manure or of the richest and best rotted manure from the barn yard. After covering lightly with earth, flatten down the tops of the hills and sow half a dozen seed to the hill. The plants of course must be thinned out subsequently, leaving only the most vigorous.

Strawberry Beds.—Let these be thoroughly cleaned and forked over; work in some woods earth along the rows and water freely in dry weather.

Garden Fruit Trees.—Work around these and top dress about them with a mixture of well rotted manure, ashes, salt and plaster.

Gooseberries, Currants, and Raspberries.—Attend to these, work about them carefully and prune all that require it.

Grape Vines.—These may still be planted, but such work should not be delayed later than the very first week in the month.

MODERN ECONOMY OF TIME.—The Scientific American thus shows how time has been economized by the application of machinery:

One man can spin more cotton yarn now than four hundred men could have done in the same time in 1769, when Arkwright, the first cotton spinner, took out the first patent.

One man can make as much flour in one day now as a hundred and fifty could a century ago.

One woman can now make as much lace in one day as a hundred women could a hundred years ago.

It now requires only as many days to refine sugar, as it did months thirty years ago.

It once required six months to put quicksilver on a glass; now it needs only forty minutes.

The engine of a first-rate iron-clad frigate will perform as much work in one day as forty-two thousand horses.

Stings and bites are often instantaneously cured by washing them in hartshorn or turpentine.

MODES OF DRAINAGE.

The question of the utility of draining has been so freely discussed, and the argument pro and con so completely elaborated of late years by the agricultural journals both of this country and Europe, that the verdict of all practical agriculturists, has gone forth on the subject, signed, sealed and delivered to the world. Whilst upon this topic, therefore, we consider it a work of perfect supererogation to allude to the effects of drainage upon soils, the important inquiry now being, not whether drainage is useful to promote their fertility, but in what manner this important and necessary operation can be best effected.

There has been much written upon this subject, and many practical plans devised and exposed for the drainage of all manner of soils, but there is quite as great a difference in the facilities and means at hand amongst farmers, for effecting the operation, as there is in the soils to be drained. Whilst this is so, an intelligent consideration of the principle which governs the whole subject of laying drains, is not only a useful guide in every case, but is absolutely indispensable to a judicious performance of the work. The farmer should begin then by reflecting that he is about to construct a regular filter; that the object of his labour is to carry off, by a subterranean vent, the surplus water from his soil, and the water only after it has been divested of, and deposits in the earth above, those substances which are nutritious to plants, and by that means also to afford capillary passages that can be traversed by the atmosphere which is scarcely less important in its chemical operation than the water itself, and the substances of which it has been divested.

Any means of drainage, therefore, which will *certainly and effectually* produce this result, may be confidently adopted; having due reference of course, to its durability, which is the foundation of all permanent improvement. The construction of open or surface drains is very simple, and every farmer who is so inclined has the means at hand, in the spade and plough, to effect his purpose intelligently and with tolerable dispatch.

But as surface drains curtail the arable extent of the field, and are constantly carrying off the most valuable elements of the soil, in the shape of wash, constantly requiring attention to keep them open, as well as being a source of danger to cattle, their construction becomes a question of doubtful economy in the long run, and they have therefore, wherever the farmer can afford to lay out the necessary capital, given place to the more perfect and economical subsoil drainage to which the manufacture of burnt tiles has contributed such important aid.

When the work of subsoil drainage is about to

begin the first consideration is the depth of the drain. In many parts of the West, where much prairie drainage has been done on an extensive scale, the drain has often been made to reach as low as 4 or 5 feet, but as a depth of three feet in this latitude is but little more than is likely to be reached by the implements of cultivation, and will leave just the proper margin, of 10 or 12 inches above the drain undisturbed, that is amply sufficient for all practical purposes. This depth of drainage, well constructed under all soils in Maryland requiring it, would, we are satisfied, largely increase their present productiveness. The important point, however, in this regard is to construct drains at a such a depth as to be beyond the influence of frosts, and at least 8 inches below the lowest point which it is possible for the plough to reach, so that the immediate covering of the drain—the more important and delicate part of the filter—shall remain undisturbed. Having determined the direction of his main drains, by a careful consideration of the surface and the distances which they shall be laid apart, which is regulated according to the depth of the drain and the number and size of the tiles laid or channels constructed, the proper distance varying from 25 to 100 feet, and the depth slightly but regularly varying towards the main drain so as to give a proper “fall” in that direction, when the grounds are very level—(and in such cases drainage is frequently necessary, notwithstanding that there may be no surface indications of abundance of water,)—the next consideration in order will be the means of reaching the proper depth. For this purpose a set of implements have been especially manufactured, and can be procured of some of the many Agricultural Implements manufacturers in Baltimore.

The bottom of the drain should be, in all ordinary cases, about 6 inches wide, regularly converging inward from the surface at which it should be wider. Between the relative economy of regular tiles and stone or wooden drains, the farmer himself must be the judge and rely upon his own calculation.

When it is intended to lay a wooden drain, pieces of plank an inch or more in thickness, or of rail, or timber hewn for the purpose, and from two to four feet in length, of the most durable kind attainable, may be nailed together at right angles and with the angle upward will form a very excellent and durable drain, lasting for many years. Great advantage in this latter particular may be attained by so charring the outside of the wood as to reduce the surface wood to charcoal. When this means is discarded, however, and resort is had to stones, for what may be called a compact drain; great care should be taken not to have them too large, as in this case the earth is apt to pack in between them and choke the

drains, especially when rats and mice burrow amongst them, which is often the case. There are two modes of constructing stone drains, which are much in use and highly approved.

The first may be termed the compact drain, which is formed by breaking up or selecting stones about the size of a hen's egg, and filling in the drain ditch with them for about nine or ten inches from the bottom, through which the earth itself is not so likely to filter, and which are proof against the invasions of field vermin. The other, or the free drain, is constructed by walling up both sides of the ditch to about the same height with stones only sufficiently large to remain compact under the heavy pressure of the foot, to which they should be always subjected as a test, and by then covering them over with large flat stones, selected for the purpose. Oyster shells also are frequently used for the compact drain, when they can be conveniently obtained, and form a very excellent and durable ditch for the passage of water.

From the consideration of these modes of draining, we now come to those in which the ingenuity

of the mechanic has been called into play for the assistance of the farmer. These are all by what is called the tile, the only difference being in the size and construction of the article itself.

Of tiles, the first under consideration is the round tile, with or without the collar. Of these a very good article is manufactured in Baltimore by Mr. Gibson. When it can be taken for granted that the tile will always lie in the exact position in which it is placed undisturbed by any cause, the collar would seem to be unnecessary; but, as this would be very difficult to guarantee, however great the care that may be taken to adjust it, the collar becomes a very judicious arrangement, which operates as well and perhaps better than those which are simply moulded with a flat sole or bottom piece attached, by spanning the tiles at the joints, and keeping the connection in a measure unbroken by any upheaving of the earth about them. The following cuts will illustrate the two sections of the round tile, spanned by the collar at the joints, and also a shorter section, without that appendage.

ROUND TILE WITH COLLAR.



ROUND TILE.



The next variation of the pattern is the sole tile. This is simply the round tile with a flat sole or bottom cast lengthwise upon it, and extending out so as to get a firm purchase upon the surrounding earth and hold it firmly in its place. The effect of this sole seems to be rather to prevent lateral revolutions of each individual section than to prevent one end of it from rising above or falling below the other, which would most effectually interrupt and choke the drain at that point.

In addition to this there is also a *semi-cylindrical* tile, somewhat in the form of a horse-shoe, with an open bottom to rest upon a flat tile which is cast separately to form a steady and permanent foundation for the upper portion.

But when the subterranean drains, either compact or free, are resorted to, as they should be in all cases, and are perfectly adjusted in their beds, the most critical part of the work is yet to be performed.—This is the filling in above the immediate drains with such matter and in such a manner as at the same time to give a free passage to the flow of water, and not to admit of the passage of earthy matter along with it, and is the perfection of the filter. For this purpose, if the farmer can have at command abundance of thick sod and will place it immediately above the tile or drain work, (being particular, if tiles, to see that the joints are well protected,) in an inverted position with the roots up-

ward, nothing better can be found or needed.—Straw is very often laid along in the same position and for the same purpose. Cypress and cedar, and shavings of other woods, are sometimes used, but are far from being equal to the sod. When that is not attainable corn-cobs, especially if broken in the crusher, might be resorted to with advantage. But at all events some open porous matter must be obtained so that the soil above the drain shall be left not totally impervious to water, and yet packed sufficiently close by stamping, and other means, to render the passages not too free and open. Too much care and judgment cannot be used at this juncture. When this work is satisfactorily prepared, the next thing to be done is to cast in the original earth. The top soil, which should have been deposited on one side of the trench, ought to be first thrown in and rendered quite compact, and upon this the subsoil should be firmly placed. If this reversal of the soil could be done over the whole field it would, generally speaking, be productive of the greatest benefit; but because it cannot, it is no reason why advantage should not be taken even on this limited scale, to do it when it is practicable, especially since air and the plough alone soon bring the subsoil, when above a drain into the most arable condition, whilst the more open surface soil thrown down upon the drain forms a better filter than that which was removed.

It is sometimes necessary, in very soft ground, to place plants along the bottom of the ditches, to form a proper bed to keep the stones or tiles from sinking, in localities, and thereby interrupting and causing irregularities in the declinations of the drains.

In all cases the farmer should, before beginning the work make a careful examination of the surface of the field to be drained, as a preparatory step to giving and preserving to the whole a proper and regular fall, so that the drains may be as perfect as possible and not subject to interruptions in parts, which are always troublesome and sometimes difficult to remedy.

We have thrown together these observations upon the subject because the season is near at hand when this sort of work, should be attended to, and our object will be accomplished if we have advanced a single idea which may assist the reflections or lighten the labours of our numerous friends, to whom agriculture not only affords, but is itself the staff of life.

MANURE OF ANIMALS.

While to the unreflecting mind, the excrements of old and young cattle are apparently equal in value, there is, nevertheless, a wide difference in their fertilizing qualities. The young animal not having attained its full growth of bone and muscle, must necessarily retain those portions of its food which are required to form these important parts of its frame. Not so with the full-grown animal. The changes which are continually going on in the full-grown animal's body, require, of course, the necessary material with which to replace that which it is continually losing. But, on the other hand, it gives back, in the shape of urine or droppings, as much as it receives, and this keeps the account between the owner and itself evenly balanced. The manure of milch cows cannot be equal to that of full-grown fattening animals, for the reason that a large portion of its most valuable ingredients are carried off in the milk which they yield daily. Fattening animals are producers of the best manure, for to make an animal for the butcher at a profit, it must be done as quickly as possible; in order to accomplish that object, it must be amply supplied with rich flesh-forming food; and as an animal when almost fat only extracts from the food a small portion of nitrogen matter contained in it, it follows that the remainder will be ejected from the system, so that the nearer maturity an animal is, the richer will be the manure.

Rats, it is said, eat harness for the sake of the salt deposited there by the perspiration. To prevent this mischief deposit salt about the premises.

THE CULTURE OF COTTON.

Much the larger proportion of cotton grown is produced in this country. Seven-eighths of the entire product of the world, it has been estimated, has been reached by our increased production. The East Indies occupy the next place, followed by South America, (Brazil mainly,) the West Indies and Africa.

It has been used for the manufacture of cloth more than two thousand years, being first known in India, then introduced into Greece and the countries of the Mediterranean. It is now found in all tropical latitudes, and adjacent temperate localities in the United States south of 35°; in the West Indies; in South America down to Peru; in the Pacific Isles; in Australia, Japan, India, and China, and in nearly all explored portions of Africa.

ITS CLIMATE.

The cotton plant is a child of the sun, flourishing under ardent skies, growing with superior luxuriance in dry seasons, and withering under the influence of a soaking subsoil and long-continued storms. In latitude 30° to 32° in this country, upon the proper soils, it luxuriates in its greatest vigor. It delights not in an arid, brazen sky, but in an unobscured sun by day and copious dews at night—abundant moisture with continuous sunlight in its season.

It is such a climate that suits cotton, and not that the plant is of a salamander species, needing no moisture. It is on this account, quite as much as the quality of the soil, that the best alluvium of the Mississippi, bathed in an atmosphere filled with moisture, without clouds to obscure the sunlight, is so productive of cotton.

THE BEST COTTON SOIL.

The selection of a proper soil is a vital consideration in cotton culture—a consideration that must not be ignored in the present attempt to extend the bounds of its production. While the soil, in its quality and condition, should be good, it need not necessarily be very rich either in mineral or organic elements. Some of the richest soils (other conditions being unfavorable) produce only medium crops. A predominant ingredient of the best is silex, and yet a soil of coarse sand, weak in elements of the stalk, seed, and fibre, is the poorest of cotton soils. Few cotton soils have less than eighty per cent. of silex, and many have ninety, a fine specimen from a Georgia sea island plantation having ninety-two. But the silex should be so fine as to seem destitute of grit.

It is thought by many that those prairies composed mainly of decayed vegetation, which dry out with a few days' sun, are just the places for cotton. There could scarcely be worse. The Mississippi bottoms are, indeed, among the best cotton lands in the

world; but they are composed largely of sand, fine as the silt of the ocean's bed, retentive of moisture, and overspread with an atmosphere dripping with dews at night.

It will readily be seen that cotton is not a very exhaustive crop, when it is remembered that the stalk and leaves are never taken from the field; that the seed is returned to it, and only three hundred pounds of fibre (much more than the average) are taken from an acre. As the ash is only one and a half per cent., but four and a half pounds are abstracted from the soil. According to Johnston, 25 bushels of wheat abstract 17.65 pounds of mineral matter; 38 bushels of barley, 46.98 pounds; 50 bushels oats, 58.05 pounds; while potatoes average more than 150 pounds; and beets with their leaves, three times as much to the acre. Cotton is comparatively exhausting as a crop when the seed is not returned to the soil. The seed constitutes fully sixty per cent. of the weight of unginned or "seed cotton," and contains, according to Mallett, twice as much potash (which is the principal mineral ingredient) as the fibre. A very large proportion of the potash in seed cotton is thus contained in the seed, and can be returned to the soil.

The proper degree of moisture necessary is a question upon which planters differ, but the difference is mainly resultant from different circumstances. One has a quick, thirsting soil; he thinks cotton needs a great deal of water. Another has a tenacious clay, with a subsoil always saturated with water; he affirms strenuously that cotton requires little or no rain. Dry seasons have been observed to be those of large cotton crops; yet very light, sandy soils, under continued drought, produce little, while stiffer alluvium and prairies do well. These facts, apparently contradictory, have confused the ideas of superficial thinkers; some asserting that the cotton plant needs large supplies of moisture, others declaring that it does not. The truth is, *it does need constant moisture, and at the same time perfect drainage and daily sunlight.* It delights in a soil that can seize, hold, and appropriate the heavy dews of the cotton latitude, and obviate any urgent necessity for the showers of heaven. A soil not peculiarly retentive of moisture, otherwise rich, needs frequent showers to perfect the plant; but a clay subsoil, saturated with long-continued rains, is destructive of the planter's hopes. Difference in soil, therefore, fully accounts for these superficial opinions, so widely different. "Not rain, but moisture, is essential."

Cotton has a long tap root, two or three feet in length, in good soil, sometimes four or five, with a mass of fibrous side roots. It thus finds moisture, and diffuses freshness through the plant, which smiles a welcome to the grateful beverage. The natural habitat of cotton is the home of moisture-

loving plants, such as the dwarf palmetto and Spanish moss. On such lands the fibre is longer and heavier than on dry, sandy soils.

The very perfection of cotton soil may be said to be the cane-brakes of Central Alabama and the rotten limestone regions of Mississippi—both essentially the same, and both underlaid by a soft yellowish-white limestone of the tenacity of dense chalk, containing about seventy-six per cent. of carbonate of lime; yet the superincumbent soil contains only a minute proportion of lime, with potash, soda, and magnesia.

This soil is remarkable for the fine state of comminution in which it is found. Its minuteness of subdivision is extraordinary—with no stones or gravel, and few particles larger than one-fortieth of an inch in diameter, giving an enormous surface of these atoms in proportion to mass or quantity. It is so fine as almost to seem impalpable dust when dry; remains long in solution without deposition; contains, moderately dry, one-third weight of water, and nearly one-sixth when air-dried; in the heats of summer it becomes hard, and in roads polishes with friction, while in the rainy season it is a stiff, plastic mud; its cohesion is twice as great as that of common clays or pinewoods sandy loam; its adhesive power is in still greater excess; it attains a higher temperature and cools more slowly than other soils; water percolates through it less rapidly; its capillary power acts more slowly, but with longer duration, bringing water from greater depths and raising a given quantity to a higher altitude; absorbs aqueous vapor more tardily, but one hundred per cent. more in quantity than clay or light sand; and has an astonishing power of absorbing ammonia, condensing more than fifty times its volume of ammoniacal gas. Such are the rotten limestone soils, in so fine and uniform division, that the irregular rains of the season are better held and appropriated than in any other. These facts are patent to all who have seen the soil and its produce, and long known, from personal observations of the writer, but have been made singularly conspicuous by recent experiments of Dr. Mallett, of Alabama, in comparison with other cotton soils. This brief description, could it be extended, might glow in a stronger light, with the aid of the results of these experiments, in their illustrated details; as it is, it will aid in the work of selecting a suitable northern soil for experiments in cotton growing.

In the cotton States there are the following soils on which the staple is grown:

1. The region underlaid by rocks of the cretaceous system in Georgia, Alabama and Mississippi—the soft, argillaceous limestone.

2. The sea island cotton belt, very narrow, lying along the coasts of South Carolina, Georgia, and

part of Florida, and overlying tertiary deposits.—The favorite soil of this peculiar product looks like a mixture of dark gray sand and charcoal dust—a sort of ignite or peaty powder, intermixed with shells, wood, twigs, and leaves. The following is an analysis of a sample :

Silica	-	-	-	-	-	-	92.040.
Alumina	-	-	-	-	-	-	1.500.
Lime	-	-	-	-	-	-	280.
Magnesia	-	-	-	-	-	-	370.
Potash	-	-	-	-	-	-	1,000.
Soda	-	-	-	-	-	-	500.
Peroxide iron and oxide magnesia	-	-	-	-	-	-	1.500.
Vegetable matter	-	-	-	-	-	-	2,400.

With traces of carbonic, phosphoric, humic, and other acids.

3. Sandy soils underlaid by metamorphic rocks, sandstones, and chert limestones.

4. Rich, alluvial, bottom lands.

These brief suggestions may serve as a guide in the selection of lands for cotton-growing. Those prairie soils that are very light, and dry readily on the surface, or that are deficient in under drainage, or are composed mainly of decayed vegetable organisms, are not to be selected. If deeply drained, and composed of deposits of drifting sand, with requisite quantities of clay, potash, iron and manganese oxides, a little lime, and a small percentage of vegetable matter, alluvial prairie will do very well.

Too much vegetable matter will cause a vigorous growth of stalk and leaves, and a meagre amount of fibre, or none at all, should frosts come early in the autumn. Those prairies, so often seen, in the west, black with several feet in depth of half decomposed vegetation, if crude, wet, and sour, will not even grow stalk and leaves; if warm, and well suited to the culture of corn, it may grow plants of prodigious size, but no cotton.

In a flooded subsoil the tap-root will not penetrate, the plant becomes sickly, the bolls refuse to open, and scab and rot, and destructive insects make their appearance, and join in crushing every hope of a crop, or even a vestige of one.

In fine, select a soil prominently silicious and aluminous, with a little organic and mineral matter, such as is needed by the plant for food, all of great uniformity and in minute division. The best is a dark-colored, warm, finely-comminuted upland, or a second bottom, in some cases with mineral constituents in proper proportion.

PREPARATION OF THE SOIL.

After the selection of a soil deemed most suitable, its proper preparation is even a more vital consideration in northern than in more favorable latitudes. A deficiency in minuteness of mechanical subdivision of particles may be remedied in part by plough and hoe.

Lands should be deeply and thoroughly plowed

long enough before planting to allow the spring rains to settle the soil. If not ploughed previously, particular pains should be taken to secure uniform and deep pulverization. If rough and full of clods, the harrow should follow the plough.

The usual practice among successful cultivators is to form beds with the turning plough, as foundations for the ridges, turning furrows both ways towards the centres.

Ridge planting is almost universally practiced, yet the custom of planting in hills, as with corn, has obtained in certain districts in Virginia and lower Maryland, and may be preferable in otherwise suitable lands that are inclined to be too moist and cold, giving a better exposure of the fibrous side roots to the action of the sun. An increased elevation given to the ridge has essentially the same effect.

If land has been fallow, or in sod, it should first be thoroughly broken up with a heavy plow, and then bedded with a smaller one, harrowing after the first ploughing. This not only pulverizes thoroughly, but leaves grass and weeds far beneath the surface. It will not do to slight the work at this stage; the success of the crop depends upon its character. If done well, half the battle of the season is over.

When the ridge is ready to open for seeding, great care should be taken to get a perfectly straight furrow. To facilitate "scraping out" superfluous cotton and grass a very light and narrow plough should be used, making a furrow not exceeding an inch in depth. Unless the soil be very light and dry, the seed should not be covered half an inch.—A wooden instrument for making the seed bed is frequently used to advantage instead of a plough.

An exercise of common inventive ingenuity would construct a machine for opening, dropping seed, and covering, all at the same operation.

The distance between ridges and between the plants must depend upon the probable size of the plants, which varies from eighteen inches to half as many feet in height. The largest yield is secured by so graduating the distance that the plants will cover the ground and slightly interlock their branches. In good soils the ridges should be four feet apart, and the plants fifteen inches; in lighter, three and a half, and twelve inches; in very rich lands the ridges might be four and a half feet, and the plants fifteen to eighteen inches. This direction is for good cotton soils. If a stinted growth only is expected, plants may be set nearer; some of our amateur planters think six inches will do, but counsels so extreme should not be heeded.

PLANTING AND CULTURE.

Planting in the north should commence as early as is compatible with the safety of the plant, which

is very tender at first, but when well rooted is hardy as corn. Seed should be used at the rate of thirty pounds per acre when seed is abundant. A less quantity may do if the distance between the plants is regulated by a dibble, and three or four seeds dropped in each spot so marked, care being taken not to cover too deep.

It has been usual in the south to put in half a dozen bushels of seed per acre, partly to secure a "stand," and partly to manure the crop. There is a disadvantage in sowing so thick. The plants are thus crowded, as in a hot bed, and are tender and puny. This drawback, with the present scarcity of seed, makes such a course very undesirable in northern latitudes.

The seed should be soaked in a brine made by soaking stable manure in salt and water, and dried with lime, plaster, or ashes. It is more necessary to secure early germination and a vigorous first growth, when the season is short, than in the south.

The plant will make its appearance in about ten days after planting, if the weather be favorable.—With too early planting, a cold storm succeeding, there is danger that the seed will rot. It should be put in as soon after corn as possible, looking only at the danger from frost and from failure in germination.

As soon as the third leaf appears the process of "scraping" commences, which consists of clearing the ridge, with hoes, of superfluous plants and all weeds and grass; after which narrow ploughs, known as "bull-tongue" ploughs, turn a little loose earth around the plant, and cover up any grass not totally destroyed by the hoes. If the surface be very rough, (as it will not be with sufficient ploughing and harrowing,) the hoes follow, instead of precede the ploughs, to unearth those plants that may be partially covered. Some experimenters have reported that with them hoes are not necessary. That may be if their lands can be kept perfectly clean with ploughing, which must be done with such skill and care as never to touch the plants or cover them with earth. But if they depend on such culture as corn endures, producing weeds breast high in tangled masses, and an abundant crop of corn besides, their disappointment will be bitter—and deserved.

Subsequent ploughing, alternating with hoeing, (not to hill up, but to keep down the weeds) usually occurs once in twenty days. For higher latitudes the soil should be worked once in two weeks, or, better still, every ten days, in the early part of the season, to induce rapid growth and early maturity; and the crop should be "laid by" very early if clean of weeds. The object of working often, however, is quite as much to destroy the grass as to stir the soil, although light surface culture facilitates rapid growth.

There is danger, in deep ploughing, of injuring the roots. It should therefore, be avoided, except in the middle of the rows, in wet seasons, when it is necessary to bury and more effectually to kill the grass. Nothing, as a field crop, demands a cleaner culture.

A great variety of implements is used for this culture, according to differing circumstances of soil and season, and, possibly, the whims of planters. Among them are "sweeps," "shovels," ploughs, occasionally turning ploughs, cultivators, and harrows.

It requires four months for cotton to attain its growth under the most favorable conditions. It is usually planted about the 1st of April, in the Gulf States, or from March 20 to April 10, blooms about the first of June, and the first bolls open about the 15th of August, when the first picking commences as soon as fifty pounds per hand can be gathered daily.—*Agricultural Report for 1862.*

FARMING POOR SOIL.

The Agricultural report of Queens County for 1862 gives some interesting data. Lands under cultivation in the towns of Oyster Bay, 42,135 acres, 10,632 acres of which were manured in 1862, at a cost of \$179,763, or about \$16.90 per acre. The value of manure used in Queens County per year is set down at \$1,000,000. Total number of acres, 126,000, all of which are not fertilized. "The Use of Manure, its Method of Application, &c.," was one of the subjects of the Report, and the following evidence upon the matter, elicited at one of the sessions of the Agricultural Society of the county, was embodied therein:

Covering Manure—Depth at which it should be Applied.

R. E. Thorne, of Little Neck, said that he had been surprised at articles that had appeared in our agricultural papers, relative to farmers keeping their manure under sheds. He said a neighbour of his was accustomed to spread his manure on, and to allow it to remain exposed to the atmosphere until he was ready to plow it under. He is an excellent farmer, and very successful in his agricultural operations. Mr. Thorne believed that the idea of housing manure was all ideal, and more theoretical than practical.

S. T. Jackson, of Woodbury, advocated burying the manure deep and then plow it upon the surface, thus mixing it thoroughly with the soil.

Wm. Floyd Jones, of South Oyster Bay, advocated surface manuring as most beneficial to the crop.

George Allen, of North Hempstead, concurred in the opinion above expressed, advocating spreading the manure broadcast upon the soil for corn particularly.

Jacob Smith, of Centre Island, had excellent success in surface manuring. Had tried both systems side by side, and was satisfied that the shallow application of fertilizers is the proper course for farmers to pursue.

Isaac H. Cocks, of Westbury, inquired whether it is deemed best to apply manure for potatoes in the fall or spring.

Jacob Mott, of Newton, had seen the two practices pursued, and well rotted manure had produced the best results when applied in the spring. Warm and fresh manures were apt to injure potatoes, and prevent them from coming up.

Isaac H. Cocks believed that proper sheds for the covering of their manure might be beneficial, if judiciously constructed.

S. B. Mersereau, Hempstead, had practiced covering his manure with sheds, and is of the opinion that it would be an economical practice.

Mr. S. T. Taber, of Mineola, stated his practice was to put on as much as he could. He thought perhaps that the theories relating to the subject might be carried to extremes. Had applied pond mud last year to wheat, and the effect at the commencement of the season was marked, but at the close of the season there was little if any difference. Had also used Poudrette in the hill of corn with good success, but cannot say that it is a cheap manure.

Experiments with Potatoes.

Mr. Youngs presented a statement from George R. Underhill, made to the Glen Cove Farmers' Club, relative to experiments with potatoes.

Report to the Glen Cove Farmers' Club, of a series of experiments on raising Mercer potatoes the present year. The principal object of the experiment was to discover some remedy against the depredations of the wire worm. Another object was to test the value of Bruce's Concentrated manure, fish scraps, shell lime, and wood ashes, compared with Peruvian guano. The last object was to determine the propriety of planting seed from large potatoes or from those of medium size.

April 2d. Commenced planting a plot of $5\frac{1}{2}$ acres, a portion of the ground manured with New York stable manure at the rate of 90 carman-loads to the acre, another portion with the same kind of manure, 125 loads to the acre, the balance of the ground with hog pen manure 30 wagon loads to the acre; the manure was all placed in the furrows, the seed dropped on the manure. A portion of the plot was left without any additional manure; immediately joining it on four rows Bruce's Concentrated manure was added at the rate of 1,369 lbs. to the acre; it added nothing to the crop, and the potatoes were as much eaten by the wire worm as on the rows adjoining. The next 4 rows with Peruvian guano,

added at the rate of 680 lbs. to the acre; increase of crop, half the value of the guano; did not check the worms. Four rows with fish scraps added at the rate of 2,400 lbs. to the acre, added to the crop two-thirds the value of the fish: not more than two-thirds as many potatoes were eaten by the worms as in the previous experiments.

Four rows with fresh slaked oyster shell lime added at the rate of 120 bushels to the acre; no addition to the crop, and did not prevent the wire worm.

Four rows with fresh leached ashes; result the same as the last.

Eighteen rows with coal tar, at the rate of 80 gallons per acre, reduced the crop one-third, and did not prevent the aggressions of the wire worm.

Four rows with the addition of salt, at the rate of ten bushels per acre; there was no addition to the crop, but the potatoes were brighter colored, smoother and not half as badly eaten as the others; probably if twice the quantity of salt had been used there would have been none eaten.

All the ingredients were placed on top of the manure, and in direct contact with the potatoes.

The yield was 1,141 bushels of marketable potatoes, and 234 bushels of worm eaten and small potatoes, making the entire crop 1,375 bushels, or 250 bushels per acre. The conclusions arrived at from the various experiments were, that from the addition of fish scraps there was the largest yield.

From salt, the potatoes were much better looking, and were not so much injured by the wire worm.

When seed from large potatoes were used, the increased quantity of large potatoes, over that portion of the lot where the seed was cut from medium size potatoes, was equal in value to \$25 per acre.

Where the largest quantity of stable manure was applied, there was the largest net profits.

To sum up, manure heavily with New York stable manure in the furrow, sow 20 bushels of salt to the acre on the manure, and plant with seed cut from large smooth potatoes.

Several gentlemen had applied plaster, but with no advantage to the crop.

Mr. S. T. Taber gave an interesting account of the application and effects of plaster upon Dutchess county soil.

Wm. Floyd Jones inquired what had been the experience of farmers planting seed potatoes large or small.

Mr. Mott advocated large potatoes, cutting them so as to leave one eye. Had raised 815 bushels of potatoes on three acres of ground. Advised using fish guano on potatoes. Had poor success with it on cabbages.

Seed Corn hung up and *smoked* will protect it from animals and birds.

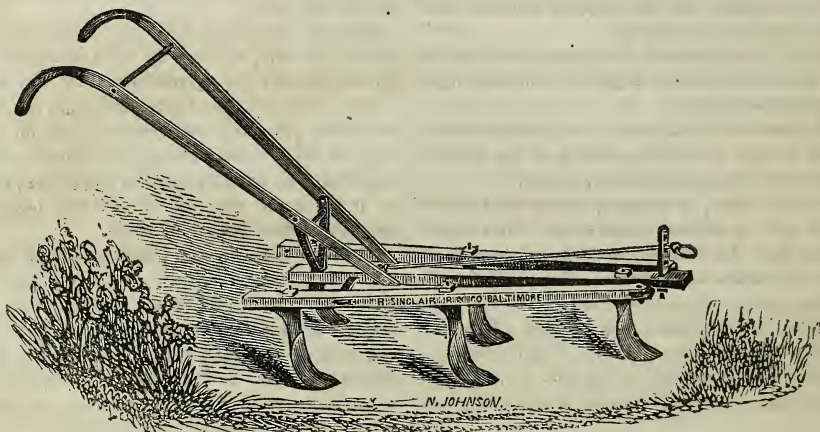
FARM IMPLEMENTS & MACHINERY.

NO. THREE.

CULTIVATORS.

The importance of a constant use of cultivators during the growth of drilled crops is not sufficiently appreciated. The remark has been made, and no doubt justly, that one day's work with a horse and cultivator in a corn field is worth ten with a

ed to expand or contract according to width of rows apart. It stirs the surface of the earth between rows, working as near them as may be desired, and may be gauged so as not to run deep enough to injure the roots of the crop; exterminates grass and weeds much more effectually than the hand hoe; pulverizes the surface soil, making it light and friable, so as to admit the dews, light rains and atmospheric influences; saves a great amount of hand labor, and promotes the growth and product of the crop.



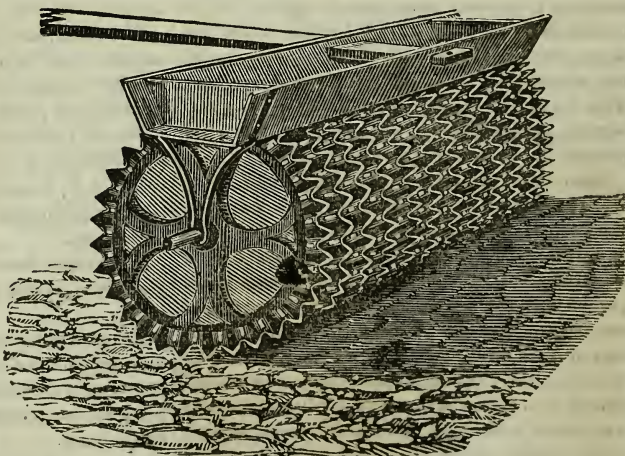
EXPANDING CORN CULTIVATOR.

a common hand hoe. One of the finest corn crops I ever saw was grown on land of moderate fertility, dressed *once a week* with the horse cultivator from the time it made its first appearance above ground till the projecting ears from the rows obstructed its further passage. In an experiment on heavy or clayey soil, one portion of the field was cultivated in the usual way, that is, the surface was but imperfectly broken and much of it left hard and cloddy; the other portion was made as mellow as an ash-heap, and the result was, it produced just double the crop obtained from the other part.

The cultivator is in most cases made to be drawn by one horse, and is principally used between the rows of cultivated crops, such as corn, potatoes and other root crops, cotton, &c., though it is employed for pulverizing the ground preparatory to its receiving seed; also for covering the seed of grain, and in such cases is sometimes made of a larger size, to be drawn by two horses or oxen. For working between rows of corn or other crops, it is construct-

SERRATED CLOD CRUSHER.

Clod Crushers, whether made in the cheap form known as the "drag-log," or drag-roller, or in the more perfect mode of revolving cast-iron toothed discs, like cross-hills, are occasionally of much ben-



CLOD CRUSHER.

efit in reducing the hard clods of clay soils. Where the early part of the season has been unusually wet, followed by drought, such clods will be abundant.

After they have been ground down and pulverized by this implement, the earth which has been thus compactly pressed together must be loosened up again by means of a two-horse cultivator. Failure in the use of clod-crushers has generally resulted in using them when the soil is too moist, and by neglecting to loosen the soil as just described. The introduction of the regular system of tile-draining, which tends to prevent soils from becoming cloddy, will greatly lessen the necessity for the use of this implement.

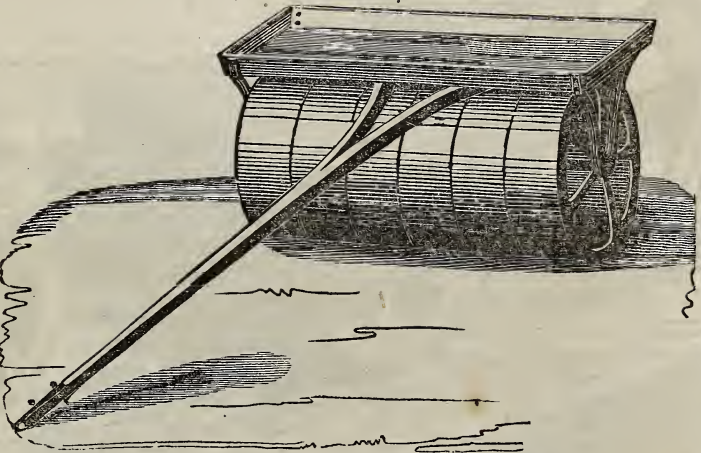
The "Scottish Farmer and Gardener's Journal" in speaking of the Clod Crusher, says: "For the Clod Crusher, agriculture is indebted to Mr. Crosskill, of Beverly. It consists of a number of serrated wheels, or pointed roller parts, with a series of inner or side teeth; each part revolves separately upon a round axle, and all combined form a roller, two feet six inches in diameter. The deep indented points of this machine penetrate and crush the hardest clods; reduce big masses of clay-baked soil into a fine mould, and rapidly convert many acres of land into the finest condition for the reception of grain, or the smallest of seeds. This machine, however, is not only valuable as a pulverizer, but is unequalled as a *compressing roller* for rolling young wheat when the plant is from three to eight inches out of the ground. The practice of driving sheep over the fields to give solidity, or to fasten the soil is entirely obviated by this machine, as it is more equal, effectual, and rapid in its application. It imitates the action of a gardener, who presses the soil with his fingers around the roots of the plant; whereas the action of smooth rollers is like placing the foot only upon the plant." This machine is in high repute in England and France.

It may be remarked that the drag roller will, in lieu of a better implement, answer the purpose; or the simple field roller, made of iron or stone, which are much cheaper—the use of which, says Thomas in his work on Farm Implements, "by reducing rough fields to a condition as mellow as ashes, has, in some instances, been the means of doubling the crop. It is necessary that the soil be dry when they are used, to prevent its packing together."

This latter remark will also apply to the serrated roller.

FIELD ROLLERS.

The field roller levels and smooths the plowed land on sowing down to grass, forcing sods and small stones into the soft ground, pulverizing all lumps of earth, pressing the light loose soil of the surface around the seeds of grain, grass, &c., securing a sure and quick germination and growth of the seeds, and preparing a smooth even surface for the reaper, scythe, and rake. By making the earth compact at the surface, insects are deprived of shelter; otherwise the sods, loose stones and lumps of

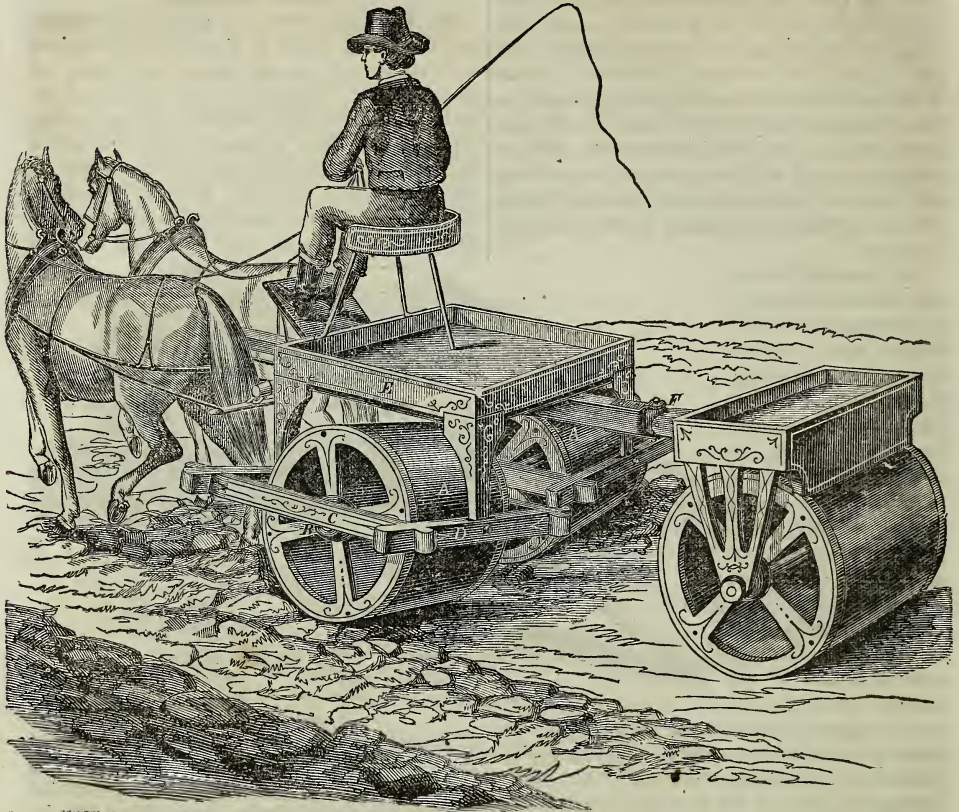


IRON FIELD ROLLER.

earth afford them convenient habitations. In spring there is frequently great advantage in rolling lands recently sowed to grain and grass, as the earth that has been hove by the frost, exposing the roots of plants, is replaced by the operation, with benefit to the growing crop. The roller is particularly beneficial on light lands, of soil too loose and porous to retain moisture and protect the manure from the effects of drying winds and a scorching sun, and too light to allow the roots of plants a firm hold in the earth; for on such lands its compressing effect, especially in dry seasons, very much increases the product of crop, as well as preserves the manure from undue evaporation, thus saving a greater portion of its fertilizing properties for the benefit of the land and succeeding crops. Field Rollers are made of wood or iron.

A cotemporary says:—"Why don't our farmers use the roller more frequently? Is it because they are not willing to incur the expenses of purchase? Is it because they are not disposed to bestow the extra amount of labor involved in rolling their fields, or is it because they do not understand their uses and benefits? Do they not know that a roller is almost indispensable on light soils, because it presses the earth closer around small seeds—that it is equally useful on heavy soils, because it crushes

THE "BUCKEYE" ROLLER.



the clods, and brings the pulverized earth in direct contact with the seeds—that it is good on grass fields, because it presses small stones, bones, &c.,—which would otherwise injure the knives of the mower—into the earth and out of the way, and that it also levels ant and mole hills; that it is useful upon wheat fields in the spring, pressing the plants which have been thrown out by the frost, into the earth again; that it exercises a most happy influence upon oats, if used after the plants have attained a height of three or four inches; in a word, it is good almost everywhere, and ranks very properly with the most important implements of the farm."

DUNHAM'S "BUCKEYE" LAND-ROLLER.

The above engraving is a recently improved apparatus for rolling land, which we present under this head for the consideration of those interested. The Buckeye is a Western implement, and differs from others heretofore constructed in that the roller is not continuous throughout its length, but is made in two parts, so that it readily accommodates itself to unevenness of surface.

The engraving shows two rollers, A, which are swung on independent bearings, B, in separate

frames, O. These frames are jointed at D, to a separate box, E, so that they readily accommodate themselves to any irregularity of surface in the field they are at work upon. This peculiarity is represented in the engraving, one of the rollers being shown in the act of crushing large clods in its passage. The draught pole of this machine runs thro' it and is joined behind to another single roller of the usual construction. The universal joint, F, permits the driver to wheel the machine around in a very small circle, as the plan of connecting the two rollers enables the forward set to be turned nearly at right angles with the one behind; this last roller follows between the track of the two first and crushes the ridge left by the space between them.—This machine is very light in draft and can be easily managed by any one. It is not only adapted to crushing clods in plowed fields, but can also be employed to advantage in carrying stone or rails across swampy and muddy places, where the soil is so loose that wagon wheels would sink in and get bemired. This machine is being manufactured by Osborn, Dunham & Co., at Bedford, Cuyahoga Co, Ohio, costing about \$75 to \$80.

The Poultry House.

ASIATIC FOWLS.

Under this head are included all our very large fowls, such as poultry-books designate by the names of Chittagong, Cochin, Shanghai, and Brahma.—Naturalists think these are merely sub-varieties of one species, and that they have descended from a large, coarse bird, yet existing in the islands of Sumatra and Java, in a wild as well as domestic state, and known as the Great Malay fowl, or Kulm Cock. And it is supposed that the slight differences that exist among these sub-varieties mentioned are mainly due to the influence of domestication, being more or less affected by difference of climate, food, and frequent crosses.

The stock of our large fowls came from the southeastern part of Asia in the vicinity of Shanghai; and hence the propriety of calling them all by the name of Shanghai or Asiatic. The first were brought to this country about forty years ago, and their descendants gave size and character to the fowls of a part of Eastern Pennsylvania, which have long been known in the New York market and elsewhere by the name of the "Bucks County Fowl." But numerous importations that were made about twelve years ago awakened a new interest for large fowls, and they have since spread all over the country.

Of these Asiatics, some have feathered shanks, some smooth, some dark, some yellow, and others greenish; some have long legs, others short; the most have single combs, while a few have combs more or less double. The plumage is of various colors; but the combination of colors that distinguishes the Brahma is generally preferred. All have short wings and tails; while the crow of the cock is remarkably prolonged, loud, and hoarse. The young chicks are slow in feathering, getting to be quite large before they are fully feathered. Early-hatched pullets, when well cared for, frequently commence laying when about five months old, and will continue to lay all winter. Their eggs are more or less buff-colored. The weight of the mature cock bird is from ten to thirteen pounds; the

hens are about two pounds lighter. They are peaceable and quiet, rambling but little if they have an abundance of food at hand. They are easily fenced against, both on account of size and shortness of wings. They are large feeders; have coarse grained flesh, which becomes quite oily and rank-flavored in old birds; and by some they are thought to be more liable to disease than our common fowl. Our markets of late show a decided improvement in the size of the poultry offered for sale, owing to the influence of Asiatic blood.

THE PROFIT OF POULTRY-RAISING.

In the vicinity of all large cities and towns fresh eggs are always in request, at the most remunerative prices. Every tiller of the soil possesses, more or less, facilities for feeding poultry economically,



SHANGHAIAS.

and has also the space upon his land to make them comfortable and thrifty. But some time must be given to looking after them daily, and a degree of care is requisite to keep them in "good heart," and to render them of profit in the end. Our Short-horns and Alderneys, our Suffolks and Chesters, our Southdowns and Cotswolds, all require care to keep them in fine condition. Why not, proportionately, so with our poultry, which, having reference to the comparative cost and product, pays with certainty so much greater a percentage of profit, year by year?

DIARRHŒA in chickens is occasioned by damp, and sometimes by improper food. Remove the bird into dry quarters; change the food; if it become very severe, give chalk; add a little starch, mixed with Cayenne, to porridge, and give it moderately warm.

THE
MARYLAND FARMER & MECHANIC.

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S. SANDS MILLS, } PUBLISHERS AND PROPRIETORS.
 E. WHITMAN, }

BALTIMORE, APRIL 1, 1864.

Bi-Monthly Report of the Agricultural Bureau.

JANUARY AND FEBRUARY, 1864.

We are indebted to the Hon. Isaac Newton, Commissioner of the Agricultural Department of the Patent Office, for a copy of his Bi-Monthly report for January and February 1864. Its contents are varied and interesting, and amongst others, two excellent articles upon the subject of Cotton and Tobacco, claim our special attention.

Upon the subject of the Cotton trade and productions, the revelations are of a most striking character, and such as to force themselves upon public consideration at the present time.

According to the statistics set forth, the imports of Cotton into Great Britain in 1858, were 1,034,342,176 pounds; and in 1862, when the blockade had begun seriously to affect the trade with the Southern States, the imports fell off to 523,973,296 pounds; this figure including all the cotton which had reached England from abroad. So successful, however, were the efforts of British manufacturers to procure cotton from other sources than the United States, which were before their main reliance for this staple, that although during the four preceding years the imports from other countries had, according to the report of the Commissioner, been only on a very gradually ascending scale, except in 1861 when possibly in view of the pending crisis in the United States, it suddenly increased from 126 to 520 millions, yet during the year 1862, when the receipts from the United States were reduced to 13,524,224 pounds, the imports from India, Egypt, Brazil, &c., amounted to 510,448,072. In 1863, although the receipts from the United States were measurably in-

creased and amounted to 56,000,000 pounds, still the increase from other sources of supply was so great as to furnish an aggregate (partly estimated) of 764,000,000 pounds, 708,000,000 whereof came from India, Egypt, Brazil, Africa, &c. In the present year (1864) which has been estimated on correct date already received, the imports from abroad will enable Great Britain to receive 1,066,000,000 pounds of cotton, (56,000,000 only estimated from the United States) being more by 31,657,824 pounds than she received from all sources in 1858, and but little less than she required annually during the three succeeding years.

Notwithstanding these figures the Commissioner argues that "on account of the greater excellence and cheapness of American cotton, and the mutability of our trade with the cotton manufacturing countries of Europe, we have the assurance of reaching that magnitude in cotton production which we attained before the rebellion."

The subject of Wool is also discussed in this connection, and the following statistics furnished:—Quantity of Wool imported into Great Britain in 1861, 147,172,841 pounds; in 1862, 171,943,472 pounds; in 1863, (partly estimated) 180,000,000 pounds. This shows an increase of about 33,000,000 pounds in two years. In the loyal States the wool crop has increased from 50,819,337 pounds in 1861 to 109,241,649 pounds in 1864 inclusive: more than 100 per cent. in that period.

In the article of Flax, also noticed as one of the textile materials which help to make up the cotton deficit, there was in the crop of 1863 an average decrease in round numbers of 387,000 pounds from the crop of the previous year, in the productions of Russia, Holland, Belgium and other countries, as shown by the imports of Great Britain, and this it is supposed may have been occasioned in some measure by the increased production of flax during that year in Ireland.

On the article of Leaf Tobacco, the Commissioner furnishes a variety of statistics accounting for the falling off in the production of Tobacco in this country between the years 1840 and 1850, and the increase in that staple during the next decade. On the question of the proposed tax, he concludes from the opposition American tobacco meets with in foreign markets, the heavy imposts levied upon it, the abundant facilities for producing it abroad, and the precarious nature of the trade, that it will not bear such taxation. Thus the European crop is estimated at 300,000,000 pounds per annum, although it is cultivated to but a limited extent, whilst the capacities of Austria and the different continental nations for producing it, are unlimited. There is also an article upon the cultivation of Tobacco, and others upon subjects to which we may advert in future.

Inquiries and Answers.

Millet.--A subscriber at Pomona Mills, asks--"What is the proper time to sow Millet Seed, and quantity per acre?" Millet, we answer, ought to be sown in good rich ground having a fine tilth, between the 1st and the 15th of May. It occupies the soil but a few months, and if thus treated will furnish more fodder than any other crop which is grown under similar circumstances. Sow 3 pecks of seed to the acre broadcast, and harrow well in.

Suffolk Pigs.--In answer to an enquiry coming from a subscriber in Washington county who desires to know where he can procure a pair of Suffolk Pigs, we can only say, that it has been quite difficult of late, to procure information of this kind, and ask in return any of our subscribers who may possess it, to send us the desired information.

Chickens.--We have had enquires made of late for fowls called Jersey Blues, the Poland, and the Dorking, and would be obliged to any of our subscribers who can indicate to us, for the benefit of others, where they can be obtained.

Potash in Clay.--A subscriber in Frederick writes to us, on this subject, as follows:—"I have just read in a late number of the *Culturist*, an article on the subject of Lime and its effects on soils, in which the writer gravely states as one of the consequences of its application, *that it decomposes clay, and renders its potash soluble*. From what I have heretofore learned of the elements of this compound (clay,) I have never suspected the existence of potash in pure clay—that is alumina—and am led to conclude that, either there must be some error lying behind this remark, in the mind of the writer, or that the allusion is to some clay compounded naturally with potash, of which I have not yet heard. Will you be kind enough, for my information, and that of some of my neighbours who are curious on the point, to clear up the question in your next number."

Will our friend Dr. G. A. Liebig, settle this potash and clay question for the Frederick subscriber?

FARMERS who make the most rapid improvement in husbandry, are likely to be those who read most on the subject of their vocation. For the man who reads little, no matter what his vocation is, will be likely to think little, and act with reference to tradition received from former generations, or else in imitation of what is going on about him. There is always hope of a man who loves reading, study and reflection.

Soft Soap should be kept in a dry place in the cellar, and not to be used until three months old.

HOW TO SAVE AMMONIA.

Of this volatile element, so important to the growth of plants, great quantities are constantly escaping into the atmosphere from barn and stable yards, where it is eliminated by the offal of cattle, and compost heaps. From the great quantity generally escaping, it is easy to detect it by the nose; but when this is rendered difficult by the smallness of the quantity, or other causes, a very certain and speedy means of detecting its escape, is to take a feather, and after dipping it in very strong vinegar, or muriatic acid, if it be at hand, hold it close above the substance supposed to be emitting ammonia.—If there is none escaping, of course, no unusual phenomenon will take place, but if the contrary should be the case, a small white cloud formed of the intercepted gas and the acid with which it comes in contact, will begin to collect about the feather. This is the solid salts of ammonia in small particles preparing to assume its concrete form. To preserve this valuable gas to the heap, it is only necessary to sprinkle it lightly from time to time with either Gypsum, (plaster of paris) Copperas, (sulphate of iron,) or crushed or powdered charcoal. All these substances have the faculty of retaining it, the latter by its great absorbent properties, and the former two by the strong affinity of ammonia for the sulphuric acid which they contain, and by its uniting with them in the form of soluble sulphates.

WATERING PLANTS.

Watering plants is usually badly done. Water is poured upon the surface, enough, perhaps, to wet down an inch or two. The water washes the fine earth into the chinks and interstices, and there the plant stands with dry or only moist soil below, but with a baked mass on the surface which shuts out warmth, air, and the moisture that would be derived from its free circulation. One of two methods should be adopted. Remove the service earth and pour on water enough to reach the wet subsoil, and when the water has soaked in, replace the dry surface soil, to be moistened from below; or, make a hole as near the plant as you can without disturbing the roots, and fill this with water 2 or 3 times, and afterwards fill it with the dry earth first removed. At all events, when you water at all, water freely, and with the foot or a hoe throw a little dry earth over the surface as the water settles away. A few plants thus well cared for will yield more than three times the number carelessly treated.—*Rural Annual*.

AGRICULTURAL BOOKS.

Constantly on hand and for sale an assortment of the standard books on agricultural, horticulture, &c., at the office of the "Farmer."

FARMERS' CLUB OF NEW YORK.

At the meeting of the Farmers' Club on the 1st of March, a long discussion was had on miscellaneous subjects, valuable for the most part to farmers only. We select two items as being perhaps of general interest.

A communication was received from a man in Illinois, giving an account of some experiments made by him to ascertain the quantity of pork which could be produced from a bushel of corn, fed in different states. As young pigs require food other than corn, he took for experiments swine more than four months old. He says that, with hogs in clean comfortable pens, supplied with plenty of dry straw

50 lbs. of corn, whole and raw,	will make	10 lbs. of pork
50 " do. ground	"	15 " "
50 " do. ground and fermented	"	17 " "
50 " do. cooked and fermented	"	21 " "

The subject of the application of magnesian limestone being introduced, Mr. Thompson remarked that while it was known that magnesian soils are very poor for most crops, he had observed that they were very favorable for melons. He had planted water-melons on rich, strong land; and the fruit was hardly larger than oranges and almost tasteless; while at the same time he had seen water-melons growing on almost barren magnesian soils, and the melons were very delicious, and some of them weighed forty pounds. Mr. Thompson asked an explanation of this, but received no answer.

GLUE FOR READY USE.—To any quantity of glue use common whisky instead of water; put both together in a bottle, cork it tight and set it away for three or four days, when it will be fit for use without the application of heat. Glue thus prepared will keep for years, and it is at all times fit for use, except in very cold weather, when it should be set in warm water before using. To obviate the difficulty of the stopper getting tight by the glue drying in the mouth of the vessel, use a tin vessel with the cover fitted tight to the outside, to prevent the escape of the spirit by evaporation. A strong solution of isinglass, made in the same manner, is an excellent cement for leather.

A THING WHICH FARMERS SHOULD KNOW.—If you wish to drive a cut nail into seasoned oak timber, and not have it break or bend, just have a small quantity of oil near, and dip the nail before driving, and it will never fail to go. In mending carts and plows this is of great advantage, for they are generally mostly of oak wood. In straightening old nails before using, let it be done on wood, and with easy blows. If done on iron, they will be sure to break.

SOIL FOR FLOWERS.

The *Gardener's Monthly* contains the following excellent advice in regard to the best soil for flowers. "Very few understand that an occasional change of soil is very beneficial to flowers in beds, though all know how important it is to flowers in pots. There is nothing better than surface soil from an old pasture, taken off about two inches deep, and thrown into a heap with about one-sixth part of old hot-bed dung, to partially decay. In addition to this 'staple' item, a smaller quantity of different matters should be gathered together for peculiar cases or peculiar plants. Peat, for instance, will be found very useful for many kinds of plants. This is not, as is often supposed, mere black sand; but a spongy, fibrous substance from the surface of bogs and boggy wastes. Sand should be collected sharp and clean; the washings from turnpike ditches are as are as good as anything. Leaf-mould is best got already well decayed from the woods. A load or so of well-decayed cow-manure is a good thing for the gardener to have with him, as all those plants that dislike our hot summers, and want a cool soil to grow in, prefer it to any other manure. A small pile of hot-bed manure is almost indispensable to a garden.

TO OUR AGRICULTURAL FRIENDS.—Our friends and the friends of agriculture, into whose hands this number may fall, will greatly oblige us by presenting the claims of "THE FARMER AND MECHANIC" to their friends and neighbours. There are many farmers and residents of the suburbs of cities and villages, who are not subscribers to any journal devoted to agriculture and its kindred sciences, who could be easily induced to forward us their names, if the character and claims of our journal were properly presented to them. A very little effort would secure a good list, in almost any neighbourhood.—Any one sending us five names with the cash, will be entitled to a sixth copy. Subscription price per annum, \$1.50; six copies for \$7.50.

OUR SUPPLEMENT.—We are again compelled to issue a Supplement of 16 pages, so as to accommodate the large demand upon our advertising columns, thereby enabling us to offer the full number of pages of reading matter. As a general rule we desire that there shall be no interference with our regular amount of reading, though the arrangement is made at a heavy additional expense.

EXHIBITION ROOM.

We propose to connect with our office an *Exhibition Room*, if it meets the encouragement of our friends, where rare and curious productions of Fruits, Flowers, Vegetables, &c., &c., may be deposited for the inspection of the public.

Live Stock Register.

FEEDING AND MANAGEMENT OF COWS.

The following valuable suggestions in relation to the feeding and management of dairy cows we copy from Dr. Jennings's lately published book entitled "Cattle and their Diseases."

Keep the cows constantly in good condition, ought to be the motto of every dairy farmer, posted up over the barn, and over the stalls, and over the milk room, and repeated to the boys whenever there is danger of forgetting it. It is the great secret of success; and the difference between success and failure turns upon it.

In order to keep the cows in milk well and economically, regularity is next in importance to a full supply of wholesome and nutritious food. An animal's stomach is a very nice chronometer, and it is of the utmost importance to observe regular hours in feeding, cleaning, and milking. This is a point, also, in which very many farmers are at fault—feeding whenever it happened to be convenient.—The cattle are thus kept in a restless condition, constantly expecting food when the keeper enters the barn; while, if regular hours are strictly adhered to, they know exactly when they are to be fed, and they rest quietly till the time arrives. If one goes into any well-regulated dairy establishment an hour before feeding, scarcely an animal will rise to its feet; while, if it happens to be the hour of feeding, the whole herd will be likely to rise and seize their food with an avidity and relish not to be mistaken.

With respect to the exact nurture to be pursued, no rule could be prescribed which would apply to all cases; and each individual must be governed much by circumstances, both regarding the particular kinds of feed at different seasons of the year, and the system of feeding. It has been found—it may be stated—in the practice of the most successful dairymen, that, in order to encourage the largest secretion of milk in stalled cows, one of the best courses is, to feed in the morning, either at the time of milking—which is preferred by many—or immediately after, with cut feed consisting of hay, oats, millet, or cornstalks, mixed with shorts, and Indian, linseed, or cotton seed meal, thoroughly moistened with water. If in winter, hot or warm water is better than cold. If given at milking time, the cows will generally give down their milk more readily. The stalls and mangers should first be thoroughly cleansed.

Roots and long hay may be given during the day; and at the evening milking, or directly after, another generous meal of cut feed, well moistened and mixed, as in the morning. No very concen-

trated food, like grains alone, or oil cakes, should be fed early in the morning on an empty stomach, although it is sanctioned by the practice in the London milk dairies. The processes of digestion go best when the stomach is sufficiently distended; and for this purpose the bulk of food is almost as important as the nutritive qualities. The flavor of some roots, as cabbages and turnips, is more apt to be imparted to the flesh and milk when fed on an empty stomach than otherwise. After the cows have been milked and have finished their cut feed, they are carded and curried down in well managed dairies, and then either watered in the stall—which in very cold or stormy weather is far preferable—or turned out to water in the yard. While they are out, if they are let out at all, the stables are put in order; and, after tying them up, they are fed with long hay, and left to themselves till the next feeding time. This may consist of roots, such as cabbages, beets, carrots, or turnips sliced, or of potatoes, a peck, or, if the cows are very large, a half bushel each, and cut feed again at the evening milking, as in the morning; after which, water in the stall if possible.

The less cows are exposed to the cold of winter the better. They eat less, thrive better, and give more milk, when kept housed all the time, than when exposed to the cold. A case is on record where a herd of cows, which had usually been supplied from troughs and pipes in the stalls, were, on account of an obstruction in the pipes, obliged to be turned out thrice a day to be watered in the yard. The quantity of milk instantly decreased, and in three days the diminution became very considerable. After the pipes were mended, and the cows again watered, as before, in their stalls, the flow of milk returned. This, however, must be governed much by the weather; for in very mild and warm days it may be judicious not only to let them out, but to allow them to remain out for a short time, for the purpose of exercise.

Any one can arrange the hour for the several processes named above to suit himself; but, when once fixed, it should be rigidly and regularly followed. If the regular and full feeding be neglected for even a day, the yield of milk will immediately decline, and it will be very difficult to restore it. It may be safely asserted, as the results of many trials and long practice, that a larger flow of milk follows a complete system of regularity in this respect than from a higher feeding where this system is not adhered to.

IN SORGHUM CULTURE an application of lime, plaster and ashes is recommended. For syrup only the cane may not be fully ripe: but the cane must be matured for sugar.

THE CARE OF HORSES.

Some persons, in their anxiety to subdue their horses, take every opportunity to worry and beat them, "to let the beast know who is master," they say. They whip, scold, and beat them on principle. Now, who does not know that such treatment addressed to a child, with the idea of subduing him, would inevitably sour his temper, and render him disobedient and obstinate? As certainly will this be the case in the discipline of a domestic animal. Instead of this, it should be our aim to let the horse know and feel that we are friendly to him and desire his well-being. This may show itself by avoiding whatever will tend to annoy and provoke him, by kindness in the tone of the voice, in the way of handling him, and by various unmentionable things which will at once occur to those familiar with this noble animal. He will understand their meaning, and they will affect his character. A horse so treated, will be a pleasant beast to handle, he will keep and fatten better, will be in better health, and will do more work than one managed differently. This should be done from the animal's earliest years, but even if neglected while young, the horse may thus be taught to love his master.

Regularity and system: This will show itself in determining the time and amount of feeding and of working. Nearly all the diseases to which the horse is subject, come from irregularity in these respects. If he is under-fed and over-worked, the tone of his system will become relaxed, and disease likely to set in. So if he is over-fed, and has deficient or irregular exercise, he will contract another set of disease. The man who is regular and systematic in his own habits of living, is most likely to enjoy health and long life, while he who indulges in excesses of any kind is sure to suffer from frequent and violent attacks of illness, and end his days prematurely. It is hardly less so with man's favorite animal, the horse.

Change of diet, cleanliness, and good shelter should not be overlooked. For the horse running at large, as in the wild state, the diet which nature gives him is all sufficient, but for one confined, stabled and worked, much attention should be given to his food. Hay and oats are doubtless the best food, all things considered, but even these should have an occasional variation. Carrots, potatoes, bran, fresh cut grass, should be given him in their place and time. During summer it seems only simple justice that, when practicable, the horse should be treated for a time to that food which is most natural to him—fresh grass. If every stabled, hard working horse could have a summer vacation of several weeks in a pasture, it would soften his dry and cracked hoofs, correct his digestion, improve

his wind, his skin, and indeed renovate his entire system. But where this indulgence cannot be enjoyed, a horse should have frequent masses of loosening food, such as roots, bran mash with cut straw, fresh grass, etc.

As to cleanliness, both good looks and health demand this. A horse well curried will make a peck of oats go much further than one ungroomed.—Good shelter saves many a horse from taking cold when coming in from work, and adds much to his health and daily comfort.

THE LAMBING SEASON.

There is no month of the year in which so much careful management should be given sheep as during this month. The lambing season generally begins now, and the sheep should receive every care that can be given to make it a successful time in rearing lambs. With sheep themselves there is an instinctive preparation for this time, and the farmer, for whose benefit they are given, should watch every opportunity to assist them in their selections of food. Of course, each farmer should know when his sheep will begin lambing, for this is important, and preparations to this end should be made without delay. The very important treatment of separating the rest of the flock should be made with care, before they are too forward, as every handling at that time is injurious. A clean, dry pen or yard, with good cover and plenty of water, should be made for them, so that they will not be in a strange place when the pains of bearing young begin.

Their food should consist of clean hay—clover is best—with a small quantity of roots, so as to prevent costiveness, but not so much as to increase the secretion of milk, for such treatment tends to clog the udder, and oft times make the mother refuse to allow her lamb to take food. This is true in most cases of young ewes. If they have been from the ground for a long time, and had but dry food, a quantity of hemlock or pine browse should be given them, and a mixture of salt and ashes, five parts of salt to one of ash, which should be given every five or six days. Salt is necessary to give good digestion, and the ash furnishes the material which is, in but small quantities in their hay or straw for the feeding or formation of bone; both, combined with a privilege of clean hay to eat as often as they desire, tend to give a strong, healthy tone to the system, so necessary at this season. They should not be handled nor at the lambing hour should they be watched, for they will often delay it until it proves fatal to them. The lamb should have sufficient time to try for itself to get food. If it does not succeed, carefully catch its dam and assist it. The ewes should not be feed with large quantities of milk-

producing food immediately on lambing, for it tends to increase inflammation and, instead of being a benefit to them it seriously injures them. If the udder of the ewe be covered with wool or tag-locks, this should be removed, which serves two purposes; first to allow the young lamb to easily obtain its food, and it lessens, in a very great degree, the chances of the young lamb's getting wool in the stomach, which is almost sure to produce death.

After lambing, roots of any kind should be given, and bran or ground oats. There is a double necessity for water at this period, for, from the dry food it is next to impossible to obtain the proper quantity of milk for the lamb.

If you desire a fruitful season with your sheep, too much attention cannot be given to your ewes in giving them the proper food, a dry pen, and warm shelter, pure water and salt, keeping them from cold storms and exposure. They will doubly pay you for all the care and attention you may give, and make you better satisfied with yourself.—*Wisconsin Farmer*.

MORTALITY AMONG ARMY HORSES.

The report of Dr. Turner, late Chief Veterinary Surgeon of the Army, gives some interesting facts in relation to the mortality among the horses of the army. In the Eastern department alone the mortality is three thousand per month, and an equally large number is condemned. These seventy-two thousand horses per year cost the Government *nine millions of dollars*! Add the losses in other departments, and the number killed in battle, and we have some insight into the vast expenditures involved in the present struggle for our national existence.

This great waste of horse-life must surely be felt in every section of our country where the raising of horses is made a matter of business, and result in giving a strong impulse to the breeding this kind of farm stock. Wherever farmers can raise colts, without actual loss, at present prices, we can safely advise them to raise as many as they can, because prices must yet be even higher than now, and the demand for horses will continue to be large for years to come.—*American Stock Journal*.

CURE FOR SPAVIN.—Add to two table-spoonfuls of melted lard, one of cantharides, made fine or pulverized, and a lump of corrosive sublimate, as large as a pea—all melted up together, and applied once a day till used up, confining it to the callous. This quantity is for one leg, and may be relied on as a cure. It will make a sore and the joint will be much weakened while applying the medicine. No need of alarm; it will all be right when healed up.'

A bit of glue, dissolved in skim-milk and water, it is said, will restore old crape.

USEFUL RECIPES.

HORN AIL.—The symptoms are dullness, failure of appetite, giddiness, failure of flesh, the horn generally feels cold. The head and not the horn merely is diseased. Boring is generally of no use, and can only give temporary relief where there is a pressure of matter in the horns. Hornless cows have it sometimes. It generally occurs to animals in low condition, with deranged digestive organs. The best remedies are to keep them in a warm shelter, and give warm, nourishing, and stimulating food. If the animal should happen to be in high condition, feed lightly. Most of the remedies have their reputation because they did not *prevent* natural recovery.

GARGET OR CAKING OF THE BAG.—Let the calf suck, after having drawn off a part of the milk; and if there is danger of matter forming, rub the udder with a liniment of equal parts of goose oil and hot drops. If painful, wash with weak lye.—It is very important always afterwards to milk very clean, Avoid high or stimulating food.

HOVEN.—Occasioned by eating too much fresh clover or other green food. The preventive is caution in turning into fresh pastures, allowing but a short time at first. In mild cases, a cure may be effected by a quart of saleratus water; in severe and threatening ones, a penknife must be thrust into the paunch through the skin, two or three inches forward of the hip bone.

FOUL IN THE FOOT.—Caused by standing long in filth, may be cured by removing to a dry, clean place, washing with soap, then with chloride of lime, and applying curriers' oil. Washing with salt and water is useful.

LICE.—Wash the skin, night and morning, with a decoction of 2 ounces of lobelia seed in 1 quart of boiling water, after standing 2 hours apply with a sponge.

SORE TEATS.—Always wash with water before milking or after calf-sucking—this is often sufficient. If more so, apply equal parts of limewater and linseed oil.

CHOKED CATTLE.—May be relieved, when the obstruction is high, by thrusting the arm at full length down and seizing it with the fingers. To prevent the animal biting dangerously, pass the arm through a wheel-box or clevis, held firmly in the mouth; or still better, through a wooden box made on purpose, with projecting ends to hold by. If far down, the obstruction may be pushed down with a flexible stick with a round soft knob.—*American Stock Jour.*

For Cutaneous Parasites, pure *benzole* is a specific. It is a sure cure, and a few applications will rid the animal of all cutaneous pests.

The Dairy.

SELECTION OF COWS.

POINTS INDICATIVE OF GOOD MILKERS—THE AYRSHIRES.

There is much remissness on the part of farmers in the selection and feeding of cows. They do not devote that time and attention to studying economy in the selection and feeding of stock that its importance demands. It is much better for a farmer to keep *one* good cow that will produce eighteen or twenty quarts of milk a day, than to keep *two* cows that will produce only the same amount of milk daily. For it costs, generally more to feed *two* mouths than it does *one*, and aside from keeping, the care is just double. So it is very evident that true economy lies in getting the best breed of cows.

What is desired in a breed, or in an animal expressly for dairy purposes, is a system which shall readily and naturally convert food into milk, rather than into fat and muscle; for it is evident that by no means can the food be converted into milk, and form fat the same time.

It has been remarked that milking and fattening properties are antagonistic. This is true to a certain degree, yet not to such a degree as to prevent our seeking a breed which shall readily take on flesh and fat when not required to convert its food into milk.

It has been proved that no better stock for the production of milk can anywhere be found than some of our native stock. But having no fixed traits which descend to their progeny with an approximation to certainty, it is evident they cannot be relied on to furnish a sufficient number of milkers. There is no doubt, however, that by judicious management in selecting and breeding, that a dairy breed from a native stock alone without the introduction of foreign blood, could be produced that would yield double, or even treble what the general run of native cows do now.

In the introduction of foreign breeds of neat stock, there has been but little attention paid to systematic breeding with primary reference to the dairy, compared with the pains taken to improve breeds for beef.

There are certain marks which indicate a system in which we may confidently expect a free secretion of milk. Mr. Faxton, a writer of discrimination, says: "The points to be attended to in judging of a good milch cow, are, by universal consent, considered to be the shape and size of the animal both as a whole and in detail; development of the lactiferous parts; temperament or habit of body and disposition; and finally, strength and endurance of constitution. A maximum development of these points marks out a first-class cow of the breed to which she belongs."

An important point in a milch cow is, that her skin should be loose, without being flabby, and should spring when pinched with the fore-finger and thumb; this indicates that she is in a healthy condition, and a kind feeder. In selecting cows for the dairy, get those that *handle well*, as the skin is a true index of the milking properties of a cow.

Another important point is, the mammary glands running on each side of the belly should be large throughout their whole course. It is an important sign, because when this duct is large, it may be safely assumed that all the secretions of the animal are large, and of milk among them. The thigh veins should also be large and easily felt with the hand.

Another very essential sign, is a capacious udder. It should be large backward as well as upward between the hind legs and forward on the belly; also broad in front, filling up the space between the flanks, but rather short vertically. It would be useless for a cow, however able and well disposed, to make much milk unless a sufficient reservoir to contain it all was provided.

In judging of a cow, we would also look out for a mild eye and a placid expression of face.

The more mild and quiet a cow is, all things else being equal, the more milk she will make.

There is a great difference in cows as regards their disposition and a corresponding difference in their effects on the systems of the animals.

Of two cows, the one with the amiable cast of countenance will eat quietly the year round and chew her cud in peace, and will make much milk; while a bright-eyed, smart, excitable looking animal will worry and fret the flesh from off her bones, and oftentimes neglect her own food to fight with a neighbor for an outlying lock of hay.

For purely dairy purposes, the Ayrshire cow deserves the first place. They may not afford so large a quantity of milk as many other breeds, but for the amount of food consumed it is generally conceded that they will give a larger return of milk than a cow of any other breed. In remarking upon the characteristics of the Ayrshires for dairy purposes, Sanford Howard, of the Boston Cultivator, says: "Whether the Ayrshires are judged by their actual produce or by the external points which by experience and observation are acknowledged to denote dairy qualities, it must be admitted that they take a high rank.

From a fair consideration of their merits, it is believed that their adoption for the dairy would secure the following advantages over the stock commonly kept for that purpose in this country:

"1st. A greater quantity of milk, butter and cheese for the food consumed.

"2d. Greater uniformity in the general character

of the stock from its inherent or hereditary qualities.

"3d. Better symmetry and constitution, and greater tendency to gain flesh when not giving milk."

In consequence of her small, symmetrical and compact body, combined with a well-formed chest and a capacious stomach, there is little waste, comparatively speaking, through the respiratory system; while at the same time there is very complete assimilation of the food, and thus she converts a large proportion of her food into milk.—*Exchange.*

Change of Seed.

On this subject a late number of the Scottish Farmer remarks :

In every instance in which the seeds of grain, potatoes, and turnips, have been procured from a distance this season, we have noticed the immense benefit that is evidently going to be derived from having taken this trouble and expense. It is an expense, however, that we are sure is very soon repaid; and the farmer who did not change his seed-corn last autumn and spring in this part of the kingdom, must suffer a loss. The poor braird of swedes, grown from the ill-ripened seed of 1862, is doubtless the result of a want of sun, as we have seen English seed growing alongside of Scotch-ripened seed sown the same day, and the English crop appears at present just worth about double the other. As this seed is so small, it must be of great importance that it should be well ripened. During last autumn the Lothian farmers were puzzled about their seed-wheat, crop 1862 was so bad looking. Many sowed it, however; only about half came up, and some had to be ploughed up. We know cases in which the seed crop of 1861 was used last year and the crop is likely to turn out fine, while alongside of it wheat from the south of England was put in; the latter grew so well that it got far too thick, from having all of it vegetated. May not this fact account for the small quantity of seed-corn which our English friends can venture to seed their land with.

CELERY, to have it large, the seed should be planted at once in a warm border. When the plants have attained three or four inches, transplant after a rain in rows four inches apart each way, and let grow until the last week in June to the 12th July, when transplant in trenches. We are in favor of the early transplantation of celery plants. They rarely have time enough to grow.

SICK HEADACHE is almost always attended with cold feet, and the failure of a daily action of the bowels, and there is no permanent cure without the rectification of these.

DOMESTIC RECIPES.

HOW TO COOK SMELTS—Soak them a little while in warm water, scrape them, and cut the heads so far that you can gently pull them off, and thus draw out the dark vein that runs through the body; then rinse and lay them into a dry cloth while you fry two or three slices of salt pork crisp. Dip the smelts into a plate of fine meal and fry them brown. If you fry them in lard or drippings, sprinkle them with salt, but not till they are nearly done, as they will not brown as well if it is put on at first.

HINTS TO LADIES.—Stair carpets should always have a slip of paper put under them at and over the edge of every stair, which is the part where they wear out, in order to lessen the friction of the carpet against the boards beneath. The strips should be within an inch or two as long as the carpet is wide, and about four or five inches in breadth, so as to be a distance from each stair. This simple plan, so easy of execution, will, we know, preserve a carpet half as long again as it would last without the strips of paper.

BOILING POTATOES.—This is a formula: Let each mess be of equal size. Let the water boil before putting the potatoes in. When done, pour off the water and scatter three or four table-spoonfuls of salt, cover the pot with a coarse cloth, and return it to the fire for a short time. Watery potatoes are made mealy by this process. How simple is the process, yet how few understand it.

STEWED APPLES.—Make a clear syrup of half a pound of sugar to one pint of water. Skim it; peel and core the apples without injuring the shape. Let them be in cold water till the syrup is ready, to which add the juice of a lemon, and the peel cut very fine. Quarters of oranges may be boiled in the syrup instead of apples.

TO HOUSEWIVES.—One of the best bleaching and emollient agents that can be employed in washing, either the person or clothing, is common borax. It should be dissolved in hot water at the rate of half a pound to ten gallons; a great saving of soap is effected by its use. The borax should be pulverized first. It may be procured in the form of crystals at any druggist's, and can be powdered with a rolling pin, or hammer; it will not injure the most delicate fabric; and laces or other fine tissues may be washed in a solution of borax, with manifest advantage to their color and consistency.

HOARSENESS.—One drachm of freshly scraped horse-radish root, to be infused with four ounces of water, in a close vessel, for two hours, and made into a syrup, with double its weight in vinegar, is an improved remedy for hoarseness; a teaspoonful has often proved effectual; a few teaspoonfuls, it is said, have never been known to fail in removing hoarseness.

WARREN'S BEE HIVE AND HONEY BOX.

The hive here illustrated seems to be constructed on a very good plan, and has some peculiarities not embraced in hives which we have noticed heretofore. The inventor says:—This hive consists of a many-sided box, the alternate sides of which are constructed of wood, A, and glass, B, the glass being fastened to the frames with tin brads. A common barrel, with one head out, forms a cover, shades the glass, and regulates the temperature; two scoloped narrow boards are provided as a stand. The box turns on a pivot in the center, and has holes, C, in the bottom corresponding to similar holes in the top of the hive. By turning the box, the communication between the hive and box may be open-

Fig. 1.



ed or closed. The artist has rendered the construction of the hive so clear that letters of reference are scarcely needed. The hive is thoroughly ventilated, the air entering underneath and passing out near the top of the hive and barrel. The ventilating holes, D, are defended with wire cloth, so that no insects or vermin can enter. The bees enter and leave the hive on an incline board, through the center of the bottom of the hive, as at D.

They claim that this hive is adapted to the natural shape of a swarm of bees; they cluster around the queen during cold weather, leaving the four corners of a square hive unoccupied. Moths operate in these corners, being kept alive by the warmth of the bees. This fact gave the idea of a round or many-sided hive as being the true shape adapted to

the nature of the honey bee; especially as a defense against the moth. The hive affords great facilities for observing the operation of the bees, as the cover can be easily removed without disturbing them, when every part may be inspected with safety.—During extreme heat, when bees in common hives cease work and cluster on the outside, the ventilation and dead-air space of this structure so mollify the temperature that the bees continue at their labor

Fig. 2

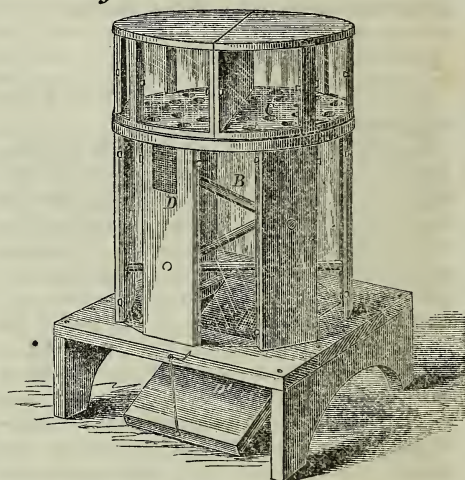
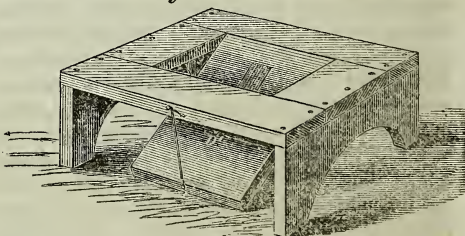


Fig. 3



unaffected by the heat, making more honey than usual during summer, and from the same peculiarity in the hive, (that is, double walls), the bees winter well, and come out strong in spring. The honey can be taken from either hive or box with great facility, by turning back the tin brads—and any pane of glass can be quickly removed or replaced. Simplicity and cheapness of construction are also features of this hive. Any man who can use tools can make one; it costs but a trifle more than a common hive, with stand and box. For any information address the patentee, Waters & Warren, Three Oaks, Berrien Co. Michigan.

To enable those interested in the apairy to make a selection of a good hive we will present a description, with drawings, of several other hives, among which will be the Langstroth.

Horticultural.

FRUIT KILLED.

One of the great sources of the wealth of Southern Illinois has been her productive orchards, thousands of which grace the hill sides and valleys of Union, Jackson and Williamson counties, bringing in a large and certain revenue to the enterprising horticulturists, who have made this branch of industry the leading feature of our portion of the State. For peaches, Egypt has been unrivalled, and of late years she has supplied the North and West with this luscious fruit—for thirty years the orchards upon the uplands have not been affected by the frost, and when crops in other sections have failed from this cause, the ridges have produced bountifully; but this season tells another tale—this crowning glory of Egypt has departed. The late cold weather has destroyed not only the crop of peaches and pears, but also has killed the last year's growth of wood, and in many instances the whole tree.—We have before us twigs from peach, pear and apple trees, cut within twenty-four hours—the wood of the peach and pear twigs is black, showing the sap vessels to be destroyed, and the wood dead beyond recovery. This will be a sad blow to our portion of the State—hundreds of thousands of dollars lost and we fear it will not soon recover from the effects. The apple is uninjured, and promises an abundant crop.—*Cairo News, Feb. 26th.*

A correspondent of the Chicago *Tribune* has visited the Illinois peach district to investigate the effects of the cold upon the trees. His opinion is, that never within the history of fruit-growing in the West, has there been such wide-spread disaster. There are within the district which he visited, embracing a radius of from fifteen to twenty miles, about 120,000 peach trees. He thinks all are more or less injured, and many of the trees are dead to a certainty; he would not be surprised to find most of them, of all sizes, killed outright, while, at best, they will be two or three years in recovering the degree of vitality they possessed before the disaster.—Taking all the facts that "Rural" reports into consideration, unless the Michigan orchards have been more fortunate, the Northwest will be without peaches, at least the coming season, and with but small supplies for the next two or three years.

The *Dayton Journal* of the 1st, says:

THE FRUIT.—Nurserymen inform us that the late hard freeze has greatly crippled their operations.—All the trees which were left over and put into the ground in the fall are frozen; all the tender sprouts of the nursery trees have been killed, and the yearlings have been cut down to the ground to take a

fresh start. The nursery business has been thrown back a year; and many varieties have been set back two years, or more. The loss of young fruit trees, and the destruction of fruit bearing twigs on grown trees, will be a real calamity to the people of the West.

The editor of the St. Louis *Republican* says that he has been "shown a number of vine and peach twigs, cut on a place at Cote Brillante, that bear evidences of having been winter-killed during the late severely cold weather. The vines represent three varieties of grape, the Delaware, Catawba and Isabella, and seem to be dead beyond question.—The peach twigs retain a very little vitality, but the buds upon them are killed. Our informant says that the fruit trees of all his neighbors have fared quite as hardly as his own."

GRAFTING GRAPE VINES.

In the first place, says the Ohio Farmer, see that you get good ripe wood, not less than one quarter inch in diameter—less may do, but is not certain. Keep this damp in sand or moss in a cellar until the ground opens in the spring, remove the earth about three inches deep, select a smooth place; saw off the vine six inches below the surface, unless that comes on the roots, in which case it may be performed near the surface; pare smooth with a clasp knife, split down the stock in the middle; prepare the graft by cutting one inch above the bud and three below; wedge it the same as in other grafting; insert as usual, but be careful to have the line between wood and bark of stock and scion to be in an exact line with each other; the outside must not be a guide, as the bark of the stock will be much thicker than that of the graft. Fit the graft in firmly, and if the stock is still weak, tie around it with twine or loose matting, so as to hold the graft firmly until it has caught hold by growing, by which time the bandage will decay and not hinder the growth of the vine. Never use wire.

Now take the earth and press it closely and firmly around the joint of grafting, but be careful not to move the graft; fill up to the bud; leave the point sticking out; over this put loose manure or weeds, or anything that will prevent frost from lifting the graft out, "or your labor is lost." This will keep out frost, and will prevent your bud from drying out. About the time that vines begin to grow, it will be well to examine occasionally to see if the bud starts. The covering must be kept loose, and as the graft progresses, taken away entirely. Suckers arising out of the root must be carefully removed.

The Pacific-coast gold mines yielded ore to the value of \$52,500,000 last year.

STRAWBERRY AND RASPBERRY CULTURE.**STRAWBERRY.**

Cultivation.—The most common method of cultivation is to set the plants, allowing the runners to take root, which will almost preclude the use of the hoe, and the consequence is, that the bed is so soon over run with plants and weeds that it is about impossible to clear it out, and there it remains until the patience of the cultivator is so exhausted that he becomes disgusted with his own efforts and strawberry culture in general. In such cases one full crop and a half is as much as is usually obtained. The best method is to take any good soil and spade in a good coat of well rotted manure and ashes, and if it is a compost of stable manure and leaves or muck properly prepared, so much the better. Three plats of ground should be laid out of sufficient size for the use of a family in beds five feet wide, with alleys two feet wide. A row of plants should be set in the middle of the bed, and one on each side six or eight inches from the paths, setting the plants eighteen inches apart in the rows. The plants can then be taken care of and the fruit picked from the alleys. The runners should be cut three or four times during the summer. Strawberries cultivated in this way need to be mulched not only to ensure them moisture enough during the season of fruiting, but to protect the roots from the ill effects of freezing and thawing, but care should be used not to give the crown of the plant too much covering during the winter, as there is nearly as much danger from over-protecting the crown as from a lack of protection. The finest of fruit may be expected from this mode of cultivation, as the energies of the plant are not exhausted in the production of runners, and it affords a plenty of light and heat both, which are so essential to insure the best of fruit.—It is a mistaken idea that our wild strawberries are of finer quality than cultivated, and no one who has eaten a good ripe Hooker or Triomphe de Gaud will dispute the assertion. By pursuing the above plan, planting one-third yearly, an individual will obtain two crops from his plants before they need renewing.

RASPBERRIES.

No fruit, except the currant and perhaps the gooseberry, can be so cheaply raised as the raspberry, and yet no fruit adapted to our climate is so much neglected. The raspberry, like most of our small fruits, has been much improved within a few years. Dr. Brinckle of Philadelphia, has done more, perhaps, than any other man, to improve this fruit, having given us some of the best varieties now in cultivation, if not the very best, and what has been said of the strawberry may also be said of this, that it is difficult to tell how far this improvement may be carried.

Cultivation.—Raspberries will grow on almost any good soil, but flourish best on a moist soil containing considerable vegetable mold. For garden culture, after spading in a good coat of well rotted manure and ashes, mark off your rows four feet apart, and if you have plenty of room, five is better, setting the plants two or three feet apart in the rows, in either case they will, if well mulched (which I consider almost indispensable) soon fill all the intermediate space. A plantation of raspberries will need but little care for five or six years, except thinning out, so that the plants shall stand about a foot apart—tying up and heading in about one-third the length of the canes in the spring; laying down and covering the stocks in the fall with evergreens, leaves, or anything that will shield them from the effects of the sun, when they are not covered with snow. If kept well mulched they will produce much better fruit and require but little weeding, and that can and ought to be done with the hands, on account of the roots running near the surface of the ground.—*Report Maine Board of Agriculture.*

CULTIVATION OF THE CRANBERRY.

A correspondent of the Genessee Farmer—D. L. Halsey, of Victory, N. Y.—speaking of the culture of this berry, says: "You ask on what kind of soil, and how I cultivate the cranberry; and also what varieties succeed best. My cranberry garden is on sandy loam. Before being cleared it was timbered with hemlock, beech and maple; after being cleared, the natural growth was sorrel, June grass and white clover. When cultivated it produced good crops of potatoes and oats. Corn and wheat did not succeed well on it. My opinion is, that almost any soil that is not inclined to grass over without seeding, will grow full crops of cranberries.

I prepare the ground by plowing deep—bringing as much of the subsoil on top as I can. Harrow and work as for corn. Set about the first of May, in hills, three to six plants to the hill. Cultivate and hoe until the runners interfere, and then mow with a sharp scythe—cutting above the cranberry plants. Once a year is sufficient mowing. It should be done when the cranberry plants show their first blossoms, which is here about the 20th of June to the 1st of July.

I prefer the Black Bell variety, on account of its fine dark color, and their being more prolific in fruit, ranking among cranberries as the Wilson does among strawberries. Yield, by measure, at the rate of 160 bushels per acre."

HAIR, removed by fevers and other sickness, is made to grow by washing the scalp in a strong decoction of sage leaves once or twice a day.

The Florist.

FLORICULTURE—April, 1864.

Communicated for the "Farmer and Mechanic," by W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore County, Md.

April is a busy month with gardeners and amateur horticulturists, and those who would succeed, should consider well the easiest and best mode of effecting the object they have in view, and when they have come to a conclusion on that point, then to act with vigour. No one should permit his green-house or conservatory to be deficient in bloom at this season, as now is the time when Geraniums, Verbenas, Azaleas, Hyacinths, Lauristinus, and Acacias ought to be beautiful.

So soon as plants pass out of bloom, they should be replaced by such as are fresh, and the exhausted ones removed to a less conspicuous part of the house, or else be placed in a cold frame, so as to give room for bulbous rooted plants—and such as are making growths towards their summer blooming.

As our remarks were rather extensive last month upon the treatment of the more popular kinds of plants, their application during the present one, will also suit; observing always to keep the collection free from insects, by a liberal use of the syringe and fumigations of tobacco, taking care also that the plants are regularly supplied with water, and receive a free admission of air in fine weather. All young plants, both annual and perennial, raised from cuttings or seeds during the winter, should be placed in small pots or boxes, and all such as are intended for planting out during the summer may be removed to the cold frames or pit, and protected during cold nights with mats. Where there are no hot beds, continue to sow such tender annuals as may be wanted for out-door culture, in boxes, and place the same in the green-house. As the various creeping plants under-glass make their growths, thin out the shoots when too thick, and tie the remainder up neatly to the rafter or trellis.

Shift into larger pots, all plants that have become stunted from exhaustion of the soil; also those young ones in a growing state, of which you wish to form handsome specimens.

About the middle of the month, it will be found necessary to shade some of the more tender leaved plants, while they are making their growths; to effect this, a thin wash of whiting—with a little salt and rye flour added—may be applied to the inside of the glass with a soft brush.

In the flower garden and shrubbery much work may be found to do at this season. See and have the Hyacinth and Tulip buds uncovered, and the surface of the soil lightly stirred up. Towards the

latter end of the month Carnation pinks may be removed from the cold frames and planted out in beds; also herbaceous plants generally can be transplanted this month. Do not neglect to manure well, and have the beds dug over, where you intend to plant your Geraniums, Dahlias, and Zinnias; always preferring dry weather for this work.

Fill up blanks and make new plantations of shrubs, roses, &c. before vegetation is too far advanced, always selecting moderate sized plants in preference to old hardened stumps. Towards the latter end of the month, is a good time to transplant Evergreens; in performing this work, see and keep the roots near the surface of the ground, and do not let them get dried up by the sun or wind.

A HOT BED FOR FLOWERS.

RAND, in his admirable work entitled, "Flowers for the Parlor and Garden," gives the mode of preparing a hot-bed for flowers, furnished him by one of his friends, "who," RAND says, "with his hot-bed accomplishes wonders; and whose flower garden presents a gayer appearance than many who have unlimited green-house facilities at command." We copy the mode given, condensing it somewhat.

1. *The Frame.*—A good size is 5 by 10 feet square, 10 inches high in front, 18 in the rear; with the ends shaped, of course, to match. Let these (the ends) be cleated so as to prevent warping, and fasten together at the corners with hasps. Let in flush with the edge, narrow strips, at proper distances, for sashes to slide on, with a narrower one in the middle for a guide. These will receive four sashes of proper proportions for glass eight inches wide, which should be inserted in grooves, rather than by the old method of putting; for putty soon crumbles with exposure. Anybody with mechanical *gumption* can make the frame; and the sash can be purchased at a window factory, or made by a joiner. Paint the whole well with coarse paint.—RAND says, if the portions of the frame touching the ground can be charred it will prevent decay.

2. *The manure* is thrown in a heap so as to present as little surface to the atmosphere as possible, and allowed to ferment. Let it heat. If it is coarse, no matter. Ordinary stable manure answers.

3. *Making the Bed.*—Measure a space 12 by 7 feet, (to give a projection of a foot all around the outside the frame,) on a spot well sheltered from the cold winds and open to the sun. Set boards on edge secured by stakes, and fill in first with a layer of straw, leaves, or other material, then a layer of manure, beating it down with the fork, but not treading it hard. Continue this until you have used sufficient litter to make the bed, with the manure about two feet high. Put on the frame, cover the outside bank with boards laid flat, fill in with about

4 inches of tan, put on the sashes, and while the heat is getting up, get seeds ready, and prepare materials for potting.

4. *Potting Material.*—Bits of charcoal for drainage, the dust of which may be sifted from it and mixed with the soil for potting. Peat which has been exposed during the winter, sod, earth or loam and the bottom of an old hot-bed, if you have one, is good material. Equal parts of each, with some of the coal dust mixed in is good potting material for present purposes.

4. *The heat will be up* in about a week after the bed is made as described above. You may learn something of the condition of the bed by trying it with a sharp stick thrust into it.

6. *Sow first*, in the pots, the seeds of such plants as will bear turning out in the open border first—or plants whose growth is slow. Plunge the pots to the rim in the tan, and the heat from below will soon cause the seeds to germinate and grow. It is better, on some accounts, to sow the seeds in pots; because they are easier transplanted, and with less risk to the plant.

7. *Seed may be sown directly in the hot-bed.*—But in order to do this no tan should be put in the bed when making it; but instead, fine, rich loam should be sifted on the manure to the depth of eight inches. After a few days have elapsed to allow the rank heat and steam to pass off, sow the seed in this loam, in drills.

8. *The bed requires attention* to prevent burning the plants, to water as may be necessary, to give air to prevent damping off, and to close it before nightfall, covering it with mats during the cold nights. Common sense added to this care, with each day's experience, will soon enable the reader to manage a hot bed skillfully.

9. *Air should be given freely* when the weather is warm and sunny; on cold, cloudy days the sashes should be kept closed, unless it is necessary to get rid of damp, which may be effected by opening the frame about an inch at the top. If the weather is very cold the mats should not be removed from the sashes. Ventilate by drawing the sash down from the top. If more air is required prop up the sides about an inch, which will quickly carry off the surplus heat. After days becomes warm and sunny, and the sun gets high, the sashes may be removed, replacing them at night. Finally, they may be removed altogether and thus render the plants hardy and stocky.

10. *Protection.*—We have spoken of mats. Mats will only be needed where the bed is started quite early, or unreasonable weather occurs. A thick straw mat is generally used, and is as good and convenient as anything. If properly taken care of it will last for years.—*Rural New Yorker.*

FLOWER GARDEN.

It is pleasing to observe, that the taste for the cultivation of Flowers is steadily increasing. Almost every one can find leisure to put a few seeds into the ground, and afterwards to watch the young plant pushing through the earth; to observe the bright green stem waxing in strength and throwing out its tender foliage: to see the delicate and wonderful bud forming and swelling, which is to be the reward of all your assiduity. Any one who has done this for a season, will find the pursuit to possess a species of fascination, which will yield the purest enjoyment. When farther initiated, and become familiar with the beautiful mysteries, it is delightful to steal into the garden, day after day, and trace the gradually expanding bud developing the unknown glory of a new variety. But the whole process of flower cultivation is so innocent, so congenial to health, and leads the mind so naturally to devout contemplation, that we conceive it is unnecessary to urge anything further in its favor.

Previously to forming a Flower Garden, the ground should be properly prepared, by being well broken and slightly manured. In the country it should be protected from cold winds by close fences or plantations of shrubs. Generally speaking, a Flower Garden should not be upon a large scale.—In small gardens, where there is not space for picturesque delineations, neatness should be the prevailing characteristic. A variety of forms may be indulged in, provided the figures are graceful and neat, and not complicated. An oval is a form that generally pleases, on account of the continuity of its outlines; next, if extensive, a circle; but hearts, diamonds or triangles, seldom please. A simple parallelogram divided into beds running lengthwise, or the segment of an oval, with beds running parallel to its outer margin, will always please.

It is necessary to have suitable implements ready, so that the work may be performed well and at the proper season; such as a spade, rake, hoe, trowel, line and pruning knife. Labels may be made readily of shingles, by splitting them in strips of about an inch wide and five or six inches long, and sharpening them at one end. Paint them with white lead, made thin, and mark them with a black lead pencil before the paint gets dry. Inscriptions written in this way will be distinguishable as long as the label lasts.—*Pennsylvania Farmer and Gardener.*

WHITE BEANS are as profitable as any other crop, and always leave the ground in fine condition. Every farmer should have at least an acre. They should be sown in drills, about 2½ feet apart, at the rate of at least a bushel to an acre. Sow from the 10th to 25th May. Fifty bushels to an acre are known to have been raised.

Ladies Department.

LIVE IT DOWN.

Should envious tongues some malice frame,
To soil and tarnish your good name: Live it down!

Grow not dishearten'd; 'tis the lot
Of all men, whether good or not: Live it down!

Rail not in answer, but be calm;
For silence yields a rapid balm: Live it down!

Go not among your friends and say,
Evil hath fallen on my way: Live it down!

Far better thus yourself alone
To suffer, than with friends bemoan
The trouble that is all your own: Live it down!

What though men *evil* call your *good*?
So CHAIRS himself, misunderstood,
Was nail'd unto a cross of wood!
And now shall you, for lesser pain,
Your inmost soul for ever stain
By rendering evil back again? Live it down!

Oh! if you look to be forgiven,
Love your foes, the bitterest even,
And love to you shall glide from heaven.
And when shall come the poison'd lie
Swift from the bow of calumny;
If you would turn it harmless by,
And make the venom'd falsehood lie,
 Live it down!

A GOOD WIFE.

"The man who has a wife and children has given hostages to fortune," says Lord Bacon. He has then objects to toil for, besides himself. He has a motive to sweeten and dignify labour—the smiles and happiness of those helpless beings, to whom he is protector and a support.

Why then should we hesitate to name a good wife, among the elements of success?

Every man needs kindness, sympathy, and the endearing tenderness of loving ones, to constitute a *home*. The possession of such a home has a vast influence on a man's moral character; he is not a 'live' man without it—his heart, at least, the very fountain of life, is dead.

What process, within the scope of man's invention, could more effectually check "the geneal current of the soul," than the homeless life of many of our young men? At the table-d'hôte or the boarding-house they swallow their break-fasts and dinners, as though they had caught the rapidity of "locomotive" action' and the selfishness of railroad station manners. The men who sit side by side are either strangers, or persons totally indifferent to each other's welfare. Sometimes, however, they

look frowningly upon their neighbours, as more fortunate than themselves, and their bread appears embittered by this reflection. As for conversation, they might as well be shut up in jars, like the forty thieves. They are gregarious only as other animals are—they feed together. The clatter of plates, knives and forks, and the incessant occupation, create a din which would drown gentle converse. The perpetual coming and going of the tardy and the hasty, is like that of the eager throng at the post-office on the opening of the mail, after the arrival of the steamer. Why this hurry? Why this rapid impatience? Apparently for no other reason than that all the commercial world has received an impulse similar to what our earth might receive from the sweep of a comet's tail—they are turned out of the good old-fashioned, quiet course, and drive along in breathless haste—run, or be run over.

It seems as dangerous for any one man to stop to take breath, as it was for the sage Hibernian to let go, who formed the topmost round of the man-ladder to the moon—in the water.

Poor young man! He cannot even

"—pause, while Beauty's pensive eye,
Asks from his heart the homage of a sigh."

If the momentary thought gleam, like a solitary sunbeam on a November day, athwart the gloom of that heart—"I might be happier if I had a home"—it is blinked out in an instant. "I cannot afford to marry," is the matter-of-fact cloud that darkens the momentary gleam.

What! not if you begin in a moderate way, as your fathers did?

Just such a question as Rip Van Winkle might ask! Begin now, in the humble way in which they did? No, indeed, we must begin where they left off; in houses, servants, and equipage, we must be equal to what they are at the climax of their mercantile career.

How altered is the mode of beginning life now-a-days! Large rents, expensive establishment, unlimited debts, "rousts and rounds of fashion" are at once launched into; and the young couple live on, so long as petty contrivances and deceptions will sustain them, and then sink into homeless misery, from which perchance they never recover.

Daughters who have been tenderly reared, and who have brought handsome fortunes to their husbands, are often obliged to return home to their aged parents, who have to maintain them, their husbands and children.

Fathers have the unspeakable misery of beholding their sons, in whom the hopes of after years were garnered, broken down, indolent, reckless, dissipated, hanging on society as pests and nuisances, instead of ornaments and examples.

"Home, sweet home," seems to have lost its charm

for woman, since all-absorbing, greedy desire for gain has taken possession of man's heart and soul, and an extravagant passion for dress is the off-set on the part of the wife. To these two passions, the old-fashioned English home-comfort is sacrificed. And what has been gained?

Nothing to compensate for the loss to the husband, but a larger amount of anxiety, toil—money, to be foolishly lavished upon the wife, who, on her part, substitutes the admiration of "stupid starers, and the consolation of possessing more rich dresses and costly trinkets than she ever dreamed of in her early country-home—that quiet home which, even amid the insane excitement of the city, occasionally comes up before her mind, as an Eden of innocence and delight.

One of the quaint old English poets thus remarks upon a wife's worth:

"Oh, what a treasure is a virtuous wife,
Discreet and loving! Not one gift on earth
Makes a man's life so nightly bound to Heaven.
She gives him double forces to endure
And to enjoy, by being one with him,
Feeling his joys and griefs with equal sense.
Gold is right precious, but its price affects
With pride and avrice.
But a true wife both sense and soul delights,
And mixeth not her good with any ill.
Her virtues, ruling hearts, all powers command:
All store, without her, leaves a man but poor,
And with her, poverty is exceeding store;
No time is tedious with her, her true worth
Makes a true husband think his arms enfold,
(With her alone,) a complete world of gold."

DON'T ROCK THE BABY.

The following sensible article on domestic philosophy is from the *Agriculturist*.

If the ultimate consequences of one's acts are to be laid to his charge, the man who invented rocking-cradles for children, rests under a fearful load of responsibility. The downright murder of tens of thousands of infants, and the weakened brains of thousands of adults, are undoubted results of his invention. To rock a child in a cradle, or to swing him in a crib, amounts to just this: *the rapid motion disturbs the natural flow of blood and produces stupor or drowsiness*. Can anybody suppose for a moment that such an operation is a healthful one? Every one knows the dizzy and often sickening effect of moving rapidly in a swing; yet wherein does this differ from the motion a child receives when rocked in a cradle? It is equivalent to lying in a ship berth during a violent storm, and that sickens nine people out of ten. A very gentle, slow motion may sometimes be soothing, though always of doubtful expediency, but to move a cradle as rapidly as the swing of a pendulum three feet long, that is once in a second, is positive cruelty. We always feel

like grasping and staying the arm of the mother or nurse who, to secure quietude, swings the cradle or crib with a rapidity equal to that of a pendulum a foot long. If any mother is disposed to laugh at our suggestions or consider them whimsical, we beg of her to have a bed or cot hung on cords, then lie down in it herself, and swing it with the same rapidity that she allows the cradle to be rocked. What she will experience in both head and stomach is just what the infant experiences.

We insist that this rocking of children is a useless habit. If not accustomed to rocking, they will go to sleep quite as well when lying quietly, as when shaken in a cradle. If they do not, there is trouble from sickness, or hunger, or more likely from an overloaded stomach; and though the rocking may produce a temporary stupor, the trouble is made worse thereafter by the unnatural means taken to produce quiet for the time being.

We will add a paragraph or two to the above from the *Scalpel*:

Mother, break not the young, quiet, healthful slumber of the infant, in order that you may play with the little one, or exhibit it to admiring, caressing, uncaring friends. Do not suppose that every body wants to see or hear the baby as you do; do not imagine that what fills your brain and occupies your thoughts, is constant attention of the rest of mankind. Let the baby sleep and never whirl it through the air, never toss it up, landing it on the bed like a sack of flour. We know of a gentleman, who, being a father, coming home when baby was asleep, would habitually wake it, toss it up through the air, and thump it on the bed till, by a "mysterious dispensation of divine providence," the little one was taken from him. The father, if he did not absolutely kill the child, at least hastened its death.

Dress the children so they may play, and play hard; suffer them to romp, and do you, by a kind exercise of power in that responsible situation in which you are placed, endeavor that the powers of that one body be harmoniously developed, so that at the least every movement of that manly form, full of thrilling health, every spontaneous action of that clear, well balanced mind, shall be to you a hymn of thanks, of grateful praise, a victor-wreath.

WHITEWASH.—White fences and outbuildings indicate the thrifty farmer and a tidy household. Put half bushel of unslacked lime in a clean, tight barrel, pour over it boiling water until it is covered five inches, stir briskly until the lime is thoroughly slacked, then add more water until it is as thin as desired, next add two pounds of sulphate of zinc and one of common salt; then apply with a common whitewash brush, giving a good coat in April and October, or at least once a year.

YOUNG BLACK HAWK.

We beg leave to call the attention of all those who are desirous of improving their stock or of perpetuating the strain of the very best thorough bred Morgan horses, to the advertisement in our supplement sheet, in regard to Morgan Black Hawk, now owned Mr. Carroll Morgan Black Hawk, when purchased by the late Col. Carroll, of the Messrs. Hills, of Bridport, in 1850, was universally admitted to have been one of the finest colts of the now famous Morgan breed that was ever introduced into this State, and although now rising 16 years of age is still hale and vigorous. Bought originally with a view to the improvement of Col. Carroll's own stock of horses, he was subsequently used for general service, and among the most noteworthy of his colts are "Linganore," owned by Gen. Kimmel, and Mr. Krist's "John Bell." Although he has never had a day's training, he was found, when timed, to be remarkably fast—and in respect to form his points are perfect. His colour is a jet black, and his height about 15½ hands. For particulars we refer to the advertisement itself, merely adding, that as roadsters and saddle horses, the Morgan breed has never been surpassed, and that Morgan Black Hawk, for strength, action and beauty of appearance is one of the best of his race.

In the May No. of the "Farmer" we will give an engraving of Black Hawk, from a photograph.

PERCHERON STALLION CHARTRES.—Those desiring to improve their stock of horses are referred to Mr. Carroll's offer of the celebrated original Percheron horse Chartres. They are very popular in France, of great muscle, and adapted alike to the wagon, plow and diligence.

SPECIAL NOTICES.

Those in need of pure bred Herefords have now an opportunity of securing some of the finest in the State from the herd of John Merryman, Esq., of Hayfields, who has long been noted as a breeder of this fine stock. He also offers for sale a superior breed of Berkshire Hogs.

The magnificent Herd of Devon Cattle of J. Howard McHenry, Esq. will be offered at public sale about the middle of May next. This herd is too well known to need any commendation from us. Also a number of pure and grade Jerseys—and some valuable Horses.

The harvest of 1864 will soon be upon us, and in view of the scarcity of labour and the necessity of expedition in its being secured, it behoves the farmer, who is not already supplied, to promptly make a selection of one of the many good Reapers and Mowers now offered for their consideration. With this view F. Ray offers his Improved Junior Combined Reaper and Mower, which has been tested by many of our most practical farmers with the greatest success, which is evidenced by the number sold for several seasons past. See his advertisement.

The gay season of flowers is rapidly approaching, and the lover of the sweet scented Rose, the beautiful Verbenas and Petunias, the scarlet Fuschia, and delightful Heliotropes, and odorous Geranium, &c., can gratify their taste by procuring a variety and surrounding their dwellings with these resplendent gems—"earth's stars." To induce every one to engage in this culture, Messrs. Halliday & Son, Pennsylvania avenue, offer a great variety of select bedding plants, calculated to please the most fastidious.

Our friends can secure their Catalogues by calling at our rooms, or on application by mail.

Those of our readers who desire to secure a cheap but true likeness of any of our Divines, Military men, and Professors, or other celebrities, can do so by applying at 57 N. Eutaw Street, Baltimore, where Cartes de Visite of all these are kept on sale. Also Books, Magazines, Papers, and Fancy Articles of every description can be supplied.—Our friends from abroad desiring any thing in this line can order and rely upon a prompt and satisfactory fulfilment.

As the wheat harvest will soon be upon us, every grower of that staple, who needs one, must be looking about him for a Thrasher—for the accommodation of all such, Evan Davis, of Butler, Baltimore County, offers his First Premium Iron Geared Thrasher (Pelton's Patent,) which is considered by many as the best now in use. He has appointed J. Montgomery & Brother, of Baltimore, General Agents, they having superseded Mr. J. D. Linton, former agent.

To enable farmers to clean their grain J. Montgomery & Bro. offer their celebrated Rockaway Grain Fan—and announce their Agency for the sale of the well known Iron Geared Thrashing machine, manufactured by Evan Davis of Baltimore County. They can supply Castings and do all needed Repairs.

"Every body," says S. "who feels an interest in Agriculture and Horticulture, should subscribe for a copy of THE CULTURIST." It is published in Philadelphia, by A. M. Spangler, at 25 cents a year—each No. contains 16 royal quarto pages, embracing much matter of a practical and useful character to the farmer and others. At 25 cents a year "every body" should subscribe.

For Machinery for the Harvest of 1864—you are referred to E. Whitman & Sons' advertisement. Every thing the farmer needs, in the way of farm Implements and Machinery can be supplied, at short notice and of good quality.

"How doeth the little busy bee," says the poet, "gather honey from every flower"—but they tax the ingenuity of man to construct a receptacle wherein they may deposit the manipulated sweets which they gather from nature's garner, and which, when processed, is so delightful to the palate, and which is so repulsive to the purse. To furnish a neat, convenient home for these delicious creatures (saving the sting) Langstroth's Movable Comb Bee Hive is offered by Mr. Colvin, of Baltimore, as the best. He can also supply Italian Queen Bees, from his imported stock.

RECEIVED.—From Henry H. Peters, of Southborough, Mass., his catalogue of Ayrshire Cattle for 1864, embracing 89 head, a number of which are for sale. He says "that last year he sold 29 head which brought in the aggregate \$4,800—19 cows and heifers brought \$3,800."

TOBACCO SEED.—We have received from the Agricultural Department several packages of Superior Havana, Maryland Broad Leaf, and Orinoco Tobacco Seed, which we can furnish our friends in small parcels by calling at our rooms.

THE CULTURE OF SWEET POTATOES.

BY J. C. THOMPSON, TOMPKINSVILLE, N. Y.

Attempts to raise sweet potatoes have often been defeated by excessive care in preparing the ground, or in not knowing how to preserve them after they are dug. When they are planted in too deep a soil, the tuber runs down too deep and becomes watery and insipid.

PLANTS OR SLIPS.

About the first of April put the potatoes in a hot bed. If they are large, split them lengthwise, laying the flat side down. They may be placed so near as almost to touch each other; then cover about two inches deep with a light rich compost made of fine sand, manure, and good soil or leaf-mould from the woods. When the sprouts push above the ground add an inch or so of the compost. Water occasionally with warm water; keep the bed warm at night, and on warm days give them air and sunshine to render them hardy. When ready to set, the sprouts may be pulled off, or the potato may be lifted out and the best plants selected and the potato returned to the hot bed. A bushel of seed will produce from three to five thousand plants, and every thousand plants which are set should produce forty bushels of potatoes.

PLANTING THE GROUND.

A warm, sandy loam is best adapted to the culture. Mark spaces three feet apart, merely scratching the ground for the rows, which should run north and south. On the marks spread barnyard manure with a fork; then turn up the earth with a plow from each side towards the manure, and form a ridge about ten inches high, and finish the ridge with a rake. The base of the ridge, which should be a foot in width, should not be disturbed with the plow. The top of the ridge when finished should be flat and three or four inches in width.

Plants should be set as soon as all danger from frost is past. I have obtained fair sized potatoes when planted the 1st day of July, but I do not advise late planting.

PLANTING ON SOD.

Sweet potatoes will grow more chubby when planted on sod than when planted in any other way. Strips of sod eight or ten inches wide may be laid in line on the surface of the ground with the grass side up, manure strewed on them, and the earth turned up on each side so as to form a ridge, as directed above; or a piece of pasture or meadow may be selected, and the turf used as the base of the ridge to be formed by the plow. In either case manure or rich compost should be used; for, unlike Irish potatoes, these are not injured, but are greatly benefitted by manure.

SETTING THE PLANTS.

A marker should be used to prick off the spaces for the plants, sixteen inches apart. A boy is then able to drop the plants in the right places, and the hole is made for setting them. The plant should then be put in the ground down to the first leaf, and the earth pressed gently around it. Care should be taken to set the plants when the ground is moist, and, if possible, on a cloudy day.

AFTER TREATMENT.

Keep the weeds subdued. Use a hoe or rake, raking upward towards the plants. Where the plants run down the ridges, lift and lay them on the top. Do this several times during the season, in order to permit the sun to act upon the ground.

GATHERING AND PRESERVING.

For early use feel in the ridges, and nip from the stem those that are fit for use, leaving the others to grow. For winter use, after the first frost select a dry, clear day. Cut the vines with a scythe, leaving the stem to which the potatoes are attached three or four inches long to lift them by. The vines are readily eaten by cattle. Use a fork for raising the potatoes; lift them by the stem, and lay them on the ridge to dry. In a few hours they will be ready to pack. Prepare plenty of dry, cut straw, (old straw is preferable,) and take straw and barrels or boxes to the field. Select the best potatoes, handling them carefully, without bruising them. Put a layer of straw at the bottom of the barrel, and then alternate layers of potatoes and straw until it is filled. The potatoes should be placed close to each other, one at a time, and handled as carefully as eggs. The barrels are then to be moved to a dry room or cellar where there will be no frost. If they are placed in a cellar they must be raised from the floor, and must not touch the wall. Keeping warm and dry is the secret of their preservation. They will keep six or eight months and improve in quality. From one plot of ground 39 by 100 feet, I gathered, in October last, 43½ bushels.—*U. S. Agricultural Report.*

BEST TIME TO PAINT HOUSES.—Experiments have indicated that paint on surfaces exposed to the sun, will be much more durable if applied in autumn or spring, than if put on during hot weather. In cool weather it dries slowly, forms a hard glossy coat, tough like glass, while if applied in warm weather, the oil strikes into the wood leaving the paint so dry that it is rapidly beaten off by rains.

The thorough-bred Stallion MARS, seven years old—by Basil out of Platina—and the Percheron Stallion, "The Little Corporal," five years old—by Imported Duke of Normandy out of Imported Snowdrop—will stand for the season of 1864, principally, near Pikesville, Baltimore County, Md. For particulars apply to

JOHN LOCKHARD, (GROOM.)

PIKESVILLE, Md.